SPECIAL ISSUE

nasze MORZE

maritime magazine

REVIEW OF POLISH MARITIME INDUSTRY

2011 BALTEXPO

Poland at Sea

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Poland at Sea

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Towards a change...

Due to its capability to build high quality ships of various kinds for renowned and high-demanding owners, Polish shipbuilding industry has always enjoyed a strong position within the European market. However, over the last two years, Polish yards have been among the European ones affected by the recent economic crisis in the shipping market, marked by an almost complete lack of new orders, major problems in financing the currently filled ones, overcapacity and, finally, the collapse and closure of two major state – owned production shipyards in Gdynia and Szczecin.

These changes resulted in a new balance of power and a new pattern of production at Polish yards, which are now focusing their efforts on offering specific services, strictly tailored to customers' expectations.

The expectations vary, depending on what kind of customer we are dealing with. Polish and other European shipyards are not so appealing to those who operate a tonnage carrying a typical cargo or to whom the price is a conclusive factor. But the yards can strike better deals with those customers who operate in the traditionally profitable offshore oil and gas industry or seek their chances in new promising areas such as the offshore wind energy sector.

Polish shipyards (and equipment manufacturers) are trying to adjust their capabilities to new market demands, doing that independently and following their own way.

On the one hand, there are renowned and well established shipyards with diversified activities. Remontowa SA offers ship repairs and conversions, recently performing numerous conversions of offshore platforms of all types (semisub and jack-up, drilling rigs as well as accommodation floatels and workshop units) and turning tankers into shuttle tankers and FPSOs. Its subsidiary Remontowa Shipbuilding puts emphasis on offering high-added-value medium-sized specialized vessels destined for the offshore industry as well as on building technologically advanced LNG – powered car-passenger ferries.

Gdansk Shipyard, besides producing partly outfitted ships, intends to become a huge wind towers plant in Europe with annual production of approximately 200 units.

Also a small company Crist Shipyard has found its market niche – the construction of specialized and highly profitable jack-up units for installing offshore wind farms.

On the other hand, there are also other smaller private – owned companies which invariably offer partially outfitted hauls. These plants are still attractive to owners thanks to their skilled workforce generating relatively low labour cost, which is reflected in acceptable prices.

But we can evaluate Polish shipyard market also by another factor, which can be validated easily. There are privately owned shipyards and those ones which still belong to the State. The former are doing well, attracting investments, following their own strategies and taking up ambitious new challenges without any political governance. They are clearly heading towards a change...

The position of the state – owned plants remains unclear. These companies suffer the consequences of no restructuring or privatization carried out but also those of poor knowledge and expertise on the part of state officials responsible for the sector. What is more, some of those companies operate according to financial rules that are not entirely transparent, which has adverse effects on the market. They are calling for a change too...

Grzegorz Landowski

nasze MORZE maritime magazine

REVIEW OF POLISH MARITIME INDUSTRY

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Baltic seminars

Safety from PRS

Shipping in the Baltic Sea Region is specific by nature. The Baltic Sea is a small and enclosed water basin featuring characteristic, dangerous weather conditions, hazardous particularly for some ship types. The specificity of shipping also include heavy traffic of people and goods between the well-developed countries around the sea.

Baltic shipping safety gets a good discussion platform at symposiums organized by Polski Rejestr Statków (Polish Register of Shipping).

The Szczecin 2010 Symposium "Safe Shipping on the Baltic Sea" confirmed both the specifics and the needs revealing several issues of general concern for Baltic maritime players.

The Gdańsk 2011 Symposium, to be held on 23 September at National Maritime Museum in Gdansk, provides a continuation of the discussion forum for maritime administrations and shipowners to identify and discuss measures for progressing safe shipping on the Baltic. The Symposium is organized under the auspices of the Polish Presidency in the European Union.

Discussion will follow several introductory papers addressing three key issues identified during the Szczecin 2010 Symposium. Session devoted to seeking clarity in proliferated regulations for Baltic Sea shipping will cover such topics as achieving higher efficiency by working together in the EU framework, with examples and proliferation of regulations and controlling bodies as well as implementing or adopting the risk base approach for developing minimum but sufficient safety regulations. Another session - concerning the operational and technical safety on the Baltic - will be focused on oil transport on the Baltic Sea and on the safety of underwater pipeline systems (especially Nord Stream), as well as on the formal safety assessment of gas carriers. The final session is intended to discuss gaps to be filled to ensure safe shipping on the Baltic. This part of the seminar will be dedicated to presentations and discussion on developments in date collection and exchange around the Baltic; hydrographical re-surveys and safety of navigation in the Baltic Sea and statistics of sea states occurrence contributing to safer shipping on the Baltic.

The seminar is organised by Polish Register of Shipping with support from Maritime Office in Gdynia, Polish Shipowners' Association and Short Sea Shipping Promotion Center Poland.

DNV on LNG

Gdynia based Det Norske Veritas Poland Ltd. scheduled an interesting seminar "LNG in Baltic Shipping" for the last day of September. The seminar will cover such "hot" topics as new international legislation on maritime engine emissions for 2010-2025; LNG terminal in Świnoujście as a possible LNG distribution or a "fuel station" for the marine segment; LNG for the shipping from Baltic Ports Organisation perspective; example of LNG distribution at LNG terminal in Nynashamn and LNG development in shipping segment. Speakers will include Michał Bagniewski, Business Development Manager, Det Norske Veritas Poland, Wojciech Cudny, Operations Manager, Polskie LNG, Bogdan Ołdakowski, Secretary General, Baltic Ports Organization, Mikael Johansson - Principal Consultant, Det Norske Veritas Sweden and Stephen Bligh, Director, Business Development Maritime Advisory Services ENA, Det Norske Veritas UK.

Variety in Gdynia

Gdynia invites to take part in this year's 11th International Economic Forum to be held on 14th October.

The International Economic Forum enjoys a long-standing tradition. It has been organized since 2001 and has become one of the most important economic events within the Pomerania region and in the Baltic Sea Region. Forthcoming edition, organised during Polish presidency of EU, will again include the "Maritime Economy panel" to be focused on such topics and ideas as: investments in the sea ports, shipyard industry - human resources as main KSF, foreign trade - financial outlook, seafarers pension welfare.

The Forum will deal with such issues as financing of the international trade as important factor for development of the maritime economy sectors in Poland and other UE countries; long term strategies for development of European maritime economy; future of the European maritime related industries and will be occasion to discuss and answer important question - how to modernize the present Europe's transport system in order to make it more effective and more competitive. The Forum is intended to cover strategic plans for long term development in the sector. Latest trends in global development of shipyard industry as the chance for consulting, design & engineering compaanies in Poland will be presented and discussed. Another important topic will be the foreign investment in the local sea ports (including case studies). The Forum will also deal with current issues and future developments for European and Polish seafarers.

PRS back in IACS

As of 3 June 2011 Polish Register of Shipping (PRS) became accepted by IACS Council as a member of the International Association of Classification Societies.

The comeback to IACS, coinciding with 75th anniversary of the Society is welcomed by PRS with satisfaction. With the new, clear, qualitative membership criteria developed and introduced by IACS in 2009, PRS membership became realistic. The process of verification of PRS against the new membership criteria covered a thorough examination of PRS capabilities, activities, organizational structure and quality management system.

Classification societies associated in IACS employ technical experts in the field of safety assurance and have supervised a huge fleet for decades, some societies for more than a century. These assets, i.e. pooled experts and accumulated experience are a great value in itself and an enormous potential for incessant improvement of safety. Undertakings and accomplishments of IACS members indeed affect safety at sea. Therefore, IACS membership is so important for classification organizations.

The period outside IACS was not lost time for PRS. Company reengineering, focus on quality performance, rule development based on scientific research as well as shipowners' support stimulated further development and substantiation of PRS class identity. As an IACS outsider, PRS could see safety issues from a different perspective.

PRS re-accession to IACS coincides with IMO development of a new regime for safety standards that assigns a new role to classification societies. Through their rules, societies will have to transpose to ships the IMO standards defining the required safety level at sea. The new role will require a risk-based approach to the development of the rules. This is a challenge that class societies must face. IACS, as a forum for the cooperation of classification societies, will find PRS a ready partner to work and share in this important period for safety assurance at sea.

rel, pbs

Gdansk Shipyard invests in modern shipbuilding production facilities

Photo: Piotr B. Starenczak

Robotized welding at micropanel prefabrication production line.

Two years have already passed since the EU Commissioners' Council accepted Gdansk Shipyard restructurization program. Among the crucial elements of this program are the investments, especially in the shipbuilding sector.

The main idea behind the restructurisation program is to base the company«s production programme on the three pillars: shipbuilding, large-size steel structures and wind towers. Investments in the first, traditional sector of the business (i.e. shipbuilding) are at full motion, many having been already completed.

- *Since the privatization of shipyard, the plant is continuously being upgraded. The total investment expenditure foreseen in the years 2010-2012 will exceed PLN 240 million* - says Arkadiusz Aszyk, board member. – *Some investments have already been completed. For example, we own the most modern line for flat panels fabrication in Europe or completely robotized line for micropanel prefabrication* - Mr. Aszyk adds.

In addition to the new production lines, the shipyard also invests in new facilities and infrastructure necessary for shipbuilding. A site for three-dimensional sections assembly at the Kashubian Quay is almost completed. Within less than five months two modern, high-end facilities were officially opened: a compressor station in the middle of March, and a water treatment station at the beginning of July. The renovation of the K1 production area overhead craneage is in progress, along with the installation of radio control, which will allow the remote cranes operation from the ground level. Also new machines have been purchased, including two cutting gantries - dry plasma and Fronius semi-automatic welding devices.

The above mentioned investments concern only the shipbuilding sector and are a part of the more wide ranging investment plan, which is nowadays being carried on at the Gdansk Shipyard according to the restructurisation plan.

rel, piosta

DNV's *"Tanker week"* is coming soon

Both office and seagoing staff at all levels may spend a week on a virtual tanker in October. DNV Academy in Gdynia - with its unique Survey Simulator™ - provides a safe, yet realistic environment for theoretical training, combining and extending advantages of real case and classroom workshop.

Onboard a virtual tanker...

The very first 3D Survey Simulator, purpose built by DNV to improve safety in the shipping industry, has been in use since May 2010. It brings the whole vessel into the classroom. Using images taken from existing vessels, the 3D-enabled software replicates onboard conditions with remarkable fidelity. The realism of the experience helps participants remember facts and retain knowledge. - *The Simulator is the XXI century training method* - says Magdalena Kubiak-Krupa, DNV Academy Manager – *It allows to achieve the highest learning efficiency.*

The Tanker Week is a set up from four courses. Tanker Hull Inspection Course is a guided virtual hull inspection that will familiarize superintendents and ship officers with structure and equipment, typical deficiencies, acceptance criteria, repairs and SHE issues.

TMSA & Vetting course covers vetting, which is a voluntary evaluation and examination system setup by oil companies in order to rate tanker ship owners and their vessels. Vetting in its current form first appeared in1993, the year the Ship Inspection Report (SIRE) database was created. Nowadays also other ship types are subject of vetting processes. The TMSA (Tanker Management and Self-Assessment) is a tool to help ship operators to measure and improve their management system in order to achieve incident-free operations. The TMSA initiative encourages ship operators to achieve high standards of ship management and continuous improvement, and provides guidance on what OCIMF (Oil Company international Marine Forum) believes to be current industry best practice.

The course is aiming for a sound understanding of the principles and objectives behind the vetting process as well as the TMSA scheme. It shall provide ship operators with a means by which they can efficiently prepare for vetting inspections and demonstrate a strong commitment to safety and environmental excellence.

Another course covers Maritime Accident Investigation and Analysis. This session is useful for shore-based personnel involved in establishment and continuous improvement of the company's safety & security management system and senior shipboard management, as appropriate. This course is based on DNV's M-Scat methodology. It offers a practical approach towards incident investigation and analysis in the marine environment. One of the causes for most incidents is that previous incidents were not sufficiently analysed, resulting in symptom fighting alone. For tanker managers, who have to comply with the requirements of TMSA, this course gives valuable input.

And last, but not least the Practical Marine Risk Assessment course is foreseen, where managers and senior officers, personnel engaged in planning, design or operation with potential risk to shipboard personnel safety, health or the environment will be introduced to risk management terminology, principles and techniques and will become able to carry out risk assessment ashore and onboard after completion of this course. The enrollment deadline at Gdynia DNV office is set for early October.

rel

Polish shipbuilding and ship repair industry in 2010 and 2011

Setting a new course...

Being one of the most important player on the European shipbuilding market in near history, Poland cannot impress with most recent newbuilding activity and ships on order figures. It is, however, worth mentioning the developments in the most recent years to see the difference and to understand significant decline in shipbuilding production volumes.

Polish shipbuilding production volumes decreased in 2009 and in 2010 again mainly as a result of the liquidation of the two biggest state – owned newbuilding yards in Gdynia and Szczecin in 2009. The closure of the two largest Polish newbuilding yards was imposed by European Comission. In result of EC decisions, Gdynia Shipyards assets had been sold to various enterprises, but full scale, full featured, high added value shipbuilding has not been reactivated there. Currently the production activities on these areas are mainly ship repairs and production of steel structures, especially partly outfitted hulls. In contrary, main shipyard assets in Szczecin had not yet been bought and consequently there is practically no activity so far or there is very limited activity of companies hiring some facilities.

Successfully privatised Gdańsk Shipyard, owned by Ukrainian industrial conglomerate ISD, currently concentrates its production activities in three main fields: shipbuilding, steel construction and fast growing renewable energy sector (wind towers and foundations manufacturing).

Fortunately, at least what is left in Poland in the area of new turn-key delivery newbuildings, is relatively advanced and high added value production - complex ships for such markets as offshore oil and gas E&P, car and passenger ferries, as well as offshore wind energy industry support and construction ships.

Photo: Remontowa SA

On the foreground – Gdansk Shiprepair Remontowa SA with a jack-up platform entering the yard. In the right upper corner – Remontowa Shipbuilding facilities. In the background with a vessel seen at the head of the photo – the area of Gdansk Shipyard.

General situation

According to a review of Centrum Techniki Okrętowej (CTO - Gdańsk based Ship Design and Research Centre, celebrating 40th anniversary this year), Polish shipbuilding market shows signs of stabilisation after the period of crisis. However, we would like to emphasize, that – unfortunately - this is the stabilisation on low levels in terms of national production volumes, contrasting with Poland's position on the market ten or even five years ago. The decline is severe.

On the premises and production assets of former large newbuilding yards, numerous smaller companies found their place, some hiring facilities, some buying (taking over). However, this is not a sign of a great leap forward. Of course, for the said companies, gaining access to bigger, most suitable production facilities (while before they often used to hire bare harbour quays) it is an improvement, but the move onto former big yard of Gdynia and Szczecin premises has not created any significant additional capacity (as these companies deserted their facilities elsewhere) and even hardly fulfilled the gap created by the closure of Szczecin New Shipyard and Gdynia Shipyard. While the latter used to build modern, ocean-going ships of internationally recognized quality and often awarded with a "significant ship" titles and these ships were in-house designed (with real input of Polish concept, naval architecture and marine engineering know-how), the new companies operating on sites of former big state-owned shipyards, are occupied mainly with production of partly-outfitted hulls of ships (usually fishing and offshore vessels) and barges as well as ship sections and blocks for Western European and Nordic yards. Fully equipped, turn-key delivery ships from these companies are rarities, and even those few are built to foreign conceptual and technical designs brought to Polish yards by shipping companies along with newbuilding orders. Some of the companies operating on the production assets of former Szczecin New Shipyard and Gdynia Shipyard are occupied with non-marine steel structures production, such as energy industry plants construction, bridges spans manufacturing, etc.

So it is evident, that with closure of the two biggest newbuilding yards, the essential "critical mass" of shipbuilding competence, gained experience and know-how (or at least very significant part of it) has been unrecoverably lost and wasted.

Naval Shipyard Gdynia SA is a joint-stock company co-owned by the Treasury of the Polish State through Agencja Rozwoju Przemysłu SA (Industrial Development Agency SA) and Ministry of National Defence. Activity in 2010 was concentrated mainly on navy units and naval and commercial market repairs. The yard's management reached a court agreement with creditors in December 2009 and have started with restructuring process, which, unfortunately proved unsuccessful resulting in putting the company into receivership (liquidation) early April 2011.

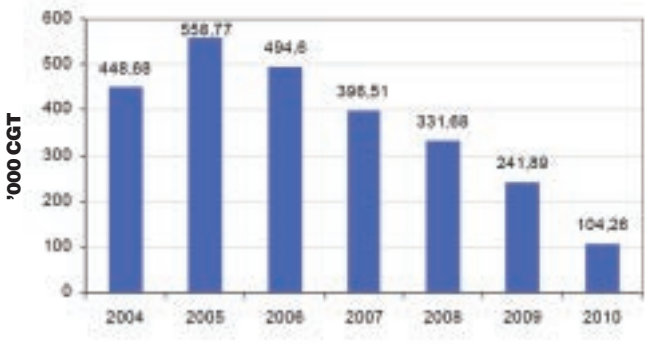
Already a few years before the end of large state-owned shipyards in Poland (which took place in 2009) REMONTOWA Group had started to emerge as Poland's largest shipbuilding industry group. In terms of total annual revenue of the Group (including ship repair, conversions, several marine equipment suppliers and shipbuilding) it overtook the whole rest of shipbuilding industry in Poland in terms of annual sales figures during final two or three years before the closure of Szczecin and Gdynia yards.

Signs of improvement

The year 2010 appeared to show signs of market improvement after the global crisis and REMONTOWA Group was able to take advantage of this. On the other hand the high pressure, especially in 2009,

Photo: Adam Woźniczka

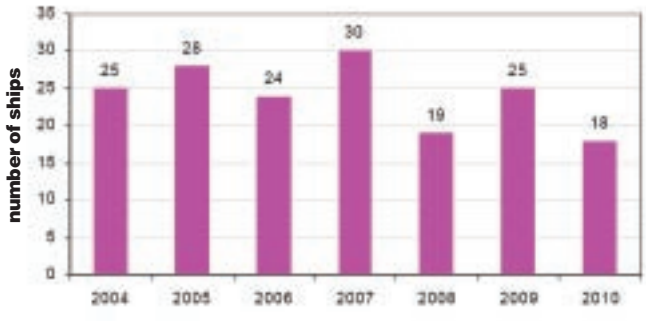
A patrol vessel for Norway from the series delivered in 2011 by Gryfia Shipyard.



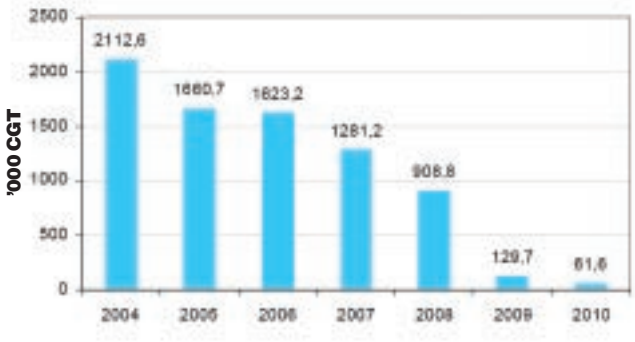
Source: CTO, based on data collected from the yards.

Newbuilding deliveries from Polish yards in CGT, 2004-2010.

Newbuilding deliveries from Polish yards in number of ships, 2004-2010.



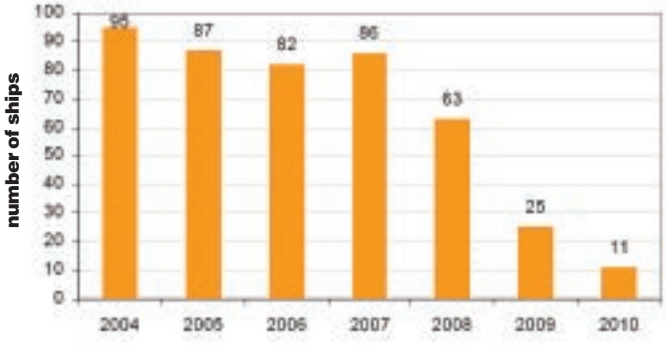
Source: CTO, based on data collected from the yards.



Source: CTO, based on data collected from the yards.

Orders portfolio in CGT, 2004-2010 (status at the end of each year).

Orders portfolio in number of ships, 2004-2010 (status at the end of each year).



Source: CTO, based on data collected from the yards.

led to adaptation to new market situation and the Group's streamlining, focusing more on core activities, while the changes and new strategies for the near future include improvement of effectiveness of operations in ship repairs and conversions sector, assigning more management and marketing independence as well as financial responsibility to Group's member companies, such as newbuilding yard Stocznia Północna presently known as REMONTOWA Shipbuilding and Group's ship design operations.

Therefore now, REMONTOWA Group - the leading power in Polish shipbuilding industry - emerges with an even better organizational and management structure, improved marketing, and as a group of companies is much better suited to changing realities of the market and more Client oriented.

Production figures and orders

According to report from CTO (Gdańsk Ship Research Centre), production of ships in Poland in 2010 was embodied by deliveries of 18 ships, totalling 104 257 CGT. The production programme of 2010 was composed of 9 ferries (50% of total number of ships delivered), 4 non-cargo carrying vessels (which means mainly offshore support vessels from REMONTOWA Shipbuilding), 2 general cargo vessels, 2 fishing ships and one container vessel. So the main products of Polish yards in 2010 were ferries, owing mainly to production output of REMONTOWA Group.

The production figures dropped radically in 2010 - amounting to 18 units or about 104,000 CGT, comparing to 2009 or 2007, when the respective figures were: 25 up to 30 and some 242 up to nearly 370 thou CGT.

With ceasing of new orders intake and breaking existing contracts at two largest newbuilding yards in Gdynia and Szczecin, forced to close in 2009, the drop in orderbook is even more dramatic. Newbuilding orders portfolio of Polish yards, according to report presented by Gdansk Ship Design and Research Centre (CTO), consisted of 11 ships, totaling 61 596 CGT at the end of 2010. This compares with some 130 thou CGT and 25 units at the end of 2009. The widest gap occurred between 2009 and 2008 of course, with the status at the end of the latter year showing 63 ships, totaling some

909 thou CGT on order. However it is worth mentioning, that at a slower pace (in line with yearly production output adding to decrease of national orderbook), but the downward trend in newbuilding orders portfolio was seen from 2007. This may be attributed mainly to the fact, that, when the new (current) government came into power in 2007 and put its people in supervisory boards of state owned Gdynia Shipyard and Szczecin New Shipyard, who nominated new boards of directors at the yards, with new managements suddenly stopping any newbuilding orders acquisition with immediate effect, even though it was not anything officially known at that time about prospective forced closure of the yards (by order of European Commission). This was a business failure, because at that time the market was still high and it was then still possible to acquire profitable newbuilding contracts that would enable yards to be kept afloat and busy during the global crisis that was soon to come.

Anyway, the production figures of 2010 and 2011, as well as mentioned orderbook at the end of 2010 (11 ships of 61 596 CGT) belong mostly to REMONTOWA Group. So do the examples of most interesting, most notable newbuildings in 2010 and 2011.

According to statistics revealed by The Association of Polish Maritime Industries Forum Okrętowe (and covering only data concerning the members of the association) the 2010 production (deliveries) consisted of 15 ships of 66 300 CGT worth EUR 170 million (however the Association mentions that even though data covers its members activities only, all figures are estimations only as data not from all shipyards was available). According to the same source the orderbook as of the end of 2010 comprised 21 ships worth EUR 300 million at 117,592 CGT (with new orders acquired during 2010 concerning 6 ships totaling 18,147 CGT and EEUR 46 million sales value.

As reported by The Association of Polish Maritime Industries Forum Okrętowe (please, keep in mind that the source notes that data may by incomplete and that statistics cover Association's members only) the total workforce on "merchant shipyards" payroll was 7000 persons, of which to merchant newbuilding activities 1800 persons were allocated, to merchant repair - 3900 employees, to naval repairs - 400, to conversions - 400, to shipbuilding related activities included subcontracted to shipyards - 300 persons and to non-shipbuilding activities - 200.

The Association membership includes: **Gdańsk Shipyard S.A.**, **Gdynia Shipyard SA** and **Szczecin New Shipyard** (both in liquidation since summer 2009 and not operational – not contributing to 2010 statistics), **Northern Shipyard** (now REMONTOWA Shipbuilding), **Wisła Shipyard Ltd**, **Stocznia Marynarki Wojennej** (Gdynia Naval Shipyard), **Gdańsk Shiprepair Yard "Remontowa" S.A.**, **"Nauta" Shiprepair Yard** and **Szczecin Shiprepair Yard "Gryfia" JSC**.

Some of the notable newbuildings

Szczecin based "Gryfia" SA (predominantly a ship repair yard) delivered, after finishing of outfitting performed to the order of Polish interests, the geared containership, in May 2011. The ship con-

Photo: Piotr B. Stareńczak

One of the last ships from Szczecin New Shipyard.

struction was commenced back in 2008, still at former Szczecin New Shipyard, but the order was cancelled when the yard was forced to close in 2009. The ship, 220 m long and with 3100 TEU capacity, named *Port Gdynia*, is operated by POL-Euro Shipping Lines of Gdynia, Poland, the company that is controlled by Agencja Rozwoju Przemysłu (government's Agency for Industrial Development), which also controls a couple of state owned shiprepair yards in Poland, including "Gryfia" itself.

Some smaller, privately-owned shipyards, such as Marine Projects of Gdańsk and Partner of Szczecin, deliver also fully equipped vessels, but built to foreign designs and to the account of foreign shipyards (as a sub-contractors - Partner dealing recently mainly with Shipkits BV and Marine Projects partnering for quite a time with Bodewes. Gdansk Shipyard is developing its own ship design office and has also in-house designed ships on offer for turn-key delivery, but currently has no contracts for fully equipped ships in its orderbook portfolio, while being busy with construction and deliveries of, reportedly, ever more complex and equipped to ever higher extend, partly outfitted vessels for offshore industry (PSV's, ROV support, diving support and construction vessels, seismic research vessels) and ferries mainly for Norwegian owners (predominantly - for the yards of Bergen Group).

After forced closure, in 2009, of the two biggest newbuilding yards in Poland, namely Gdynia Shipyard and Szczecin New Shipyard, the only full featured shipyard, capable of delivering (also complex) fully equipped ships (mostly in-house designed) not only from technological point of view, but also able to handle significant value contracts and to find financing for current production is REMONTOWA Shipbuilding, being, by far, the biggest yard - a major force in today's shipbuilding industry, almost a "synonym" for the whole newbuildings sector in Poland.

The year 2010 was fruitful for REMONTOWA Group in terms of newbuilding activity and new orders. Just to mention selected contracts… In June 2010 an order for a rescue vessel for Polish SAR service was acquired, while October saw signing of a prestigious contract for the construction of four highly advanced and innovative LNG powered ferries ordered by Norwegian Owners Torghatten Nord - now under construction. The ferry *Finlaggan* was delivered to Scottish Operator - Caledonian MacBrayne (CalMac) in May 2011, as well as the construction of two new platform supply vessels for Ezra group is underway at REMONTOWA Group (we provide details on this and some other of the recent newbuilding projects of REMONTOWA Group and some of the other shipyards elsewhere in this issue of "Poland at Sea").

Ship repair and conversions

Despite the crises in shipping, lower number of contracts and fierce competition in repair market, the 2010 year can be seen as a relatively successful one. All repair yards and enterprises reported figures at a total revenue of about EUR 350 mln.

Two graving docks of former Gdynia Shipyard are often used by external companies, hiring them on period or case to case basis, for ship repairs as the companies owning them (Crist Shipyard in case of the larger dock with 1000 t SWL "goliath" gantry crane and Energomontaż Północ Gdynia (EPG) in case of the smaller dock, with 500 t SWL gantry crane - both facilities better suited for newbuildings and large scale conversions) have neither sufficient capacity nor market position and potential to fill these docks with turn-key delivery, fully outfitted newbuildings. EPG has established its own shiprepair business entity - EPG Shipyard. The two mentioned dry docks are occupied mostly by ships brought to

Photo: Piotr B. Stareńczak

One of 25 vessels from the series of anchor handling towing supply ships delivered in the years 2003-2010 by REMONTOWA Shipbuilding for such renowned owners as Tidewater, Edison and Chouest.

Gdynia and repaired by Gdansk Shiprepair Yard "Remontowa" SA, "Nauta" SA and EPG Shipyard.

"Nauta" entered the repair market for bigger ships with servicing (with use of dry dock hired from Crist Shipyard), its first *panamax* vessel - 73 500 dwt bulkcarrier Solidarnosc owned by Polish Steamship Company in 2011.

State-owned ship repair yards, Szczecin based "Gryfia" SA, Gdynia Shiprepair Yard "Nauta" SA and Morska Stocznia Remontowa (MSR) based in Świnoujście operated with mixed fortunes in 2010, especially with "Gryfia" experiencing some problems that resulted (among other things) with change of the top management early 2011. The three shipyards are now gathered under umbrella of Agencja Rozwoju Przemysłu (government controlled Agency for Industrial Development) which raised fears (especially among the employees and trade unions) that MSR, and especially "Nauta", which is getting ready to move all its operations from the site near the city centre to new premises acquired in the area of the former Gdynia Shipyard, will be both dragged down by somewhat less profitably operated remaining yard within the new state owned shiprepair yards "union" controlled by ARP.

There are also several smaller, but some of them - quite busy and successful in their own scale - ship repair yards, such as Alkor in Gdansk, Szczecin based Pomerania Shipyard (Makrum Group), Navikon SRY Ltd of Świnoujście and others, including numerous "shipyard without docks" type companies.

Opposite to newbuildings, shiprepair and conversions market is quite vibrant and strong in Poland and the country steadily keeps significant position and market share in Europe. Similarly to newbuilding sector, also ship repairs and conversions in Poland have the same clear leader - "Remontowa" SA.

During 2010 Gdansk Shiprepair Yard "Remontowa" S.A. - by far the largest in Poland - upgraded or converted, repaired and performed planned maintenance on some 200 floating units (39 of them being 200 m long or bigger), including a few mobile offshore units. After finishing the year 2010 with positive results, "Remontowa" enjoyed exceptionally busy winter while recent months bring usual inflow of new tasks in ship repair and conversions market topped by some non-standard, challenging, but interesting and rewarding jobs won from the market, such as a vast reconstruction of a big bulk carrier and tasks related to floating units from offshore sector.

In addition to several own floating docks in Gdansk, Ramontowa enjoys utilisation of additional dry docking capabilities in nearby Gdynia. Demise of Gdynia Shipyard, forced to close late summer 2009 by decision of European Commission, has not left its two dry docks (and only of such kind in Poland) empty. The two large graving docks have been utilised by other companies, mainly Remontowa SA.

Piotr B. Stareńczak

(partly based on statistics from Gdansk Ship Design and Research Centre).

Photo: Ulstein Verft AS

Heavy metal

In Poland, built at Maritim Shipyard, the hull of the world's first ship featuring innovative, patented Ulstein's X-Bow was constructed and partly outfitted. AHTS Bourbon Orca of 2006 has 3180 t deadweight and 86 m LOA.

A significant portion of production volumes and sales are generated by companies active in steel structures manufacturing (including ship sections and blocks destined for numerous West European yards), hull assembling as well as construction and delivery of partially outfitted hulls and various services offered to foreign yards.

The scale of their deliveries are often quite impressive and especially now, after forced closure of two largest Polish newbuilding yards in 2009, their output and market share (whether in CGT, steel weight or sales value) remains significant.

With rising workers' wages ambitions causing gradually increasing labour costs along with level of welfare in Poland following and slowly approaching the Western Europe levels it is quite obvious that the steel structures and ship hulls manufacturing business is expected to lose its competitiveness. Therefore, the companies should seek the opportunities to convert themselves into "fully-featured" shipyards. However, there are several factors behind the lack of possibility to develop into "full-featured" yards.

Polish "hull suppliers" usually do not have enough capital and financial backing to win or accept high value newbuilding projects. Even in case of high value, complex ship, equipped to a high extent in Poland, they gets only just 20 up to maximum of 33-35 percent of the final price of a newbuilding earned by main contractor in Norway, Denmark, Germany, Netherlands or elsewhere. Polish "hull builders" are either not judged as entities having enough credit capability by banks or simply they do not want to take a risk with higher value projects themselves. Neither these companies seem to try establish their own ship design offices to offer in-house designed newbuildings.

Among the Poland's biggest suppliers of partially outfitted hulls, such companies should be mentioned as Gdansk Shipyard, Crist, Maritim Shipyard, Partner, Marine Projects and Navikon.

Gdansk Shipyard

Gdansk Shipyard has ambitions to market and deliver fully-outfitted ships and is also offering designs from an in-house ship desing office. However, over the recent years the yard has been occupied mainly with construction of partly outfitted hulls for Norwegian yards, especially Bergen Group. Currently, among other projects, Gdansk Shipyard has two car and passenger ferries for Fjord Line (nb no. 87, 88) for Bergen Group Fosen yard.

Vestland Insula is the name of the first PSV to be built at Gdansk Shipyard for

Photo: Bergen Group

Fugro Synergy, *of which the partly outfitted hull was supplied by Gdansk Shipyard, was awarded, in 2010, the title of the „Ship of the Year" from „Offshore Support Journal".*
Fugro Synergy, *features 4400 deadweight tonnage and is 104 m long. It is advanced, complex geotechnical drilling and well workover vessel.*

Hellesoy shipyard in Norway. The shipbuilders have installed 200 tones of piping systems, pumps, numbers of various holders for fastening the carried loads, two tunnel thrusters and an azimuthing rudder. The vessel is 20 meters wide and 85 meters long, it's cargo deck area is 1000 m^2.

Over the recent years the yard has built numerous seismic research vessels, diving and ROV support vessels, construction vessels and other offshore support units, mainly for Bergen Group.

Crist Shipyard

Crist Shipyard (Crist SA) has acquired the largest drydock in Poland, and large portion of other production assets of the former Gdynia Shipyard, but often hires the dock out for ship repair companies use. Many of the ship hulls built by Crist are relatively small units and they do not even require a large floating docks to launch them. Of significant (medium or somewhat larger) floating units under construction and on order at Crist Shipyard, there is only one firm order for fully equipped vessel (offshore windfarms con-

Photo: Ulstein Verft AS

Normand Ranger *is a powerful AHTS of 2010, with partly outfitted hull supplied by Crist Shipyard. The ship's deadweight is some 4500 t and length - 91 m.*

Photo: Piotr B. Stareńczak

Partly outfitted hull of the 82 m long multipurpose fishing vessel (seiner and trawler)* Trondur i Gotu *of 2010, featuring 3500 t deadweight, has been delivered by Naval Shipyard Gdynia to Danish yard Karstensens Skibsværft of Skagen and ultimately destined for Faroese owner.

struction self-elevating ship) with the remainder being orders for partly outfitted hulls, mainly fishing vessels.

The production profile of Crist SA includes: fishing vessels, transport vessels (sea-going ships), sea structures and offshore units, sea-going boats and transport pontoons, specialist vessels, including platforms and ships for assembly of wind farms at sea, steel structures of port berths, hydrotechnical structures (such as lock gates), land steel structures, etc.

Damen Shipyards

Main products of Damen Shipyards Gdynia include: harbour, coastal and sea-going tugs, pollution fighting vessels, fast rescue boats, pilot boats, hydrographic research vessels, sailing and motor boats, yachts, floating hotels, buoy laying/aids to navigation vessels, fishing boats, partly outfitted hulls of luxury mega-yachts. The main types of ships, that the yard has been occupied with in recent years are tugs (fully outfitted, for turn-key delivery, however on "mother-company" account - Dutch shipbuilding group) and partly outfitted steel and aluminium hulls of motor megayachts for AMELS in the Netherlands.

Maritim Ltd...

... was founded in 1992 and is a privately owned shipyard specialising in partly outfitted hulls and ship's sections. Several years ago Maritim bought its own dock suitable for ships of around 20 000 dwt, but has recently sold it. Over the years, complex projects have been undertaken at Maritim Shipyard. Hulls or blocks from the company are part of some well known ships which were often industry's first. Highest flexibility and customer satisfaction was demonstrated when the hull for Kleven's OSV *Viking Energy* (famed for being the world's first gas fuelled offshore supply vessel) was built in 3 months. The same applies for the bow section (including bulbous bow) of Chantiers de l'Atlantique's *Queen Mary 2*. Maritim Shipyard has also built the partly outfitted hull of the world's first ship with revolutionary, innovative X-Bow design special reverse bow - *Bourbon Orca*. Also the hull of one of the largest German research vessels - *Maria S. Merian* - was built at Maritim in Gdansk.

More than 40,000 tons of ship structures were manufactured by this company in peak year 2004, but usual declared capacity is approx 25 up to 35 thousand tons of steel processed a year. During the most recent times, however, the activity at Maritim Shipyard seems to be somewhat below these numbers.

Alushipp

The roots of Alushipp Technology are in Hamburg, where an industrial designer named Goetz Linzenmeier founded a company specialised in aluminium yacht building. In 1993 production was moved to Gdansk due to lower workmanship costs. Apart from hulls, Alushipp Technology is now specialising in aluminium superstructures for cruise ships and ferries, ship's sections for fast ferries, catamaran hulls, hulls for yachts and megayachts, hulls of fast patrol boats, offshore crew boats, SAR vessels and hundreds of tons of wheelhouses (ship's bridges). Refer-

ences include shipyards: Meyer Werft, Lloyd Werft, Aker MTW and operators: RCCL, NCL, Aida, DFDS, Brittany Ferries and such well known ships as P&O's *Aurora* cruise ship, *Radiance of the Seas* class cruise vessels, *Aida Vita* & *Aida Cara*, SAR vessel *Hermann Merwede* operated by German SAR organisation DGzRS, megayachts *Alfa Nero*, *Anastasia* and *Vibrant Curiosity*.

Some other examples

At the premises of Naval Shipyard Gdynia - Stocznia Marynarki Wojennej (SMW) small steel motor boats hulls have been built during several recent months as well as hulls and fully outfitted pontoon based fish farming support, control and accommodation units, however it is not clear whether it has been SMW own production or external business entities operations on hired SMW's facilities. Of the recent production of a bit bigger partly outfitted hulls the fishing vessel *Trondur i Gotu* is worth mentioning, delivered in 2009.

The ALU Group consists of ALU International (Holding) and ALU International Shipyard. The company is headquartered in Gdansk. ALU International Shipyard specialises in the welding of aluminium hulls and ship structures. One of the most spectacular structures was the 40 tons funnel structure for a RCCL cruise ship in co-operation with Alushiip Technology. ALU Group is a sub-contractor to Polish, German and Dutch shipyards as well as ship owners in Iceland, Norway and Sweden. Main products include: yachts, boats, wheelhouses, hulls and superstructures.

Photo: Piotr B. Stareńczak

Very few Polish yards have been building partly outfitted steel, steel-aluminium and all aluminium hulls of luxury super- and megayachts. The unquestioned leader in this field of shipbuilding production in Poland is Damen Shipyards Gdynia plant, supplying such high quality hulls mainly to AMELS shipyard belonging to Damen group.

The production has been recently concentrated on aluminium superstructures for megayachts.

Traditions of Wisla Shipyard in shiprepair dates back to 1888, when a shipyard was established for servicing the river icebreakers, tugs and barges very close to the old mouth of the river Wisla. As part of a modernisation project Wisla Shipyard has acquired a new 90 ton mobile crane in 2004 and started to invest in a new production plant for ship sections in 2005. Main products Ship sections for Dutch, French, German, Norwegian and Swedish shipyards like Damen, Maaskant, DCN, Sietas, Meyer Werft, Thyssen Nordseewerke, Kleven, Kvaerner, apart from major Polish shipyards. Small and medium size steel and aluminium hulls of special ships like fast patrol boats, rescue vessels, sailing and motor yachts, catamarans, superstructures for mega yachts and fishing vessels.

Centromost, inland waterway shipyard, based in Płock on Vistula river, is building inland vessels of all types: container ships, product and chemical tankers, bulk carriers, general cargo barges, pontoons, river/sea-going vessels in the restricted class, etc. The shipyard is capable of manufacturing products of ship steel, stainless steel and aluminium.

Smaller companies

There were in the near past or there still are on the market several other small and medium-sized companies with production ranging from ship sections to hulls outfitted to a high degree of technical readiness.

These include:

- Partner, Szczecin
- Navikon, Świnoujście
- Poltramp Yard, Świnoujście
- Alumare Ltd., Świnoujście
- Odys Shipyard Ltd., Gdańsk (mostly ship sections, occasionally partly outfitted hulls)
- Finomar (ship sections)
- Holm Construction (hull sections and complete, equipped superstructures, mainly for German yards, including most of superstructures installed in Flensburg based FSG yard over the recent years)
- Skipapol (small newbuildings, usually fishing ships, conversions)
- Safe Engineering Services (small newbuildings – partly outfitted hulls, mainly for Dutch yards)
- Magra (sections, blocks and complete partly outfitted hulls of barges, coasters, workboats, mainly for Duch yards)
- ALU Ustka Shipyard and successors, related companies
- Damen Shipyards Koźle (inland waterway craft) …and several others.

Some of the yards mentioned in this article (such as Partner, Odys, Marine Projects, Damen Shipyards Gdynia) have in their production programme (to a varied extent in terms of percentage of production volume and sales), not only partly outfitted hulls, but also fully equipped ships for turn-key delivery, however these newbuildings, even if delivered directly to owners in Poland, are usually built on the account of the foreign shipyard, for which Polish company acts as a sub-contractor.

Piotr B. Stareńczak

Photo: Adam Woźniczka

***Bow part (roughly half of the length of a hull) of partly outfitted hull of a multipurpose cargo ship „carrying" its own superstructure in its hold. This is a shipment from Szczecin based Partner shipyard for a Dutch shipyard and the ship itself is a 119 m long and 7755 tons deadweight* UAL Cyprus.**

Photo: Kazimierz Gliszczyński

The hull of the PSV while slipping into the water.

Versatile PSV vessels

Construction of two new exceptionally versatile platform supply vessels for Ezra group - Singapore based owners and operators - is underway at REMONTOWA Shipbuilding, Gdansk, Poland.

The MMC 887 CP design (yard no B852) vessels will be entirely constructed at Northern Shipyard in Gdansk (now renamed REMONTOWA Shipbuilding) to Remontowa's order for Ezra company with delivery dates set for 2012 (with two further units in contract options). The first steel cutting was performed in September last year, while the keel laying for the two ships took place in December 2010. The first of these two ships - PSV *Lewek Andes* - was launched on July 27, 2011.

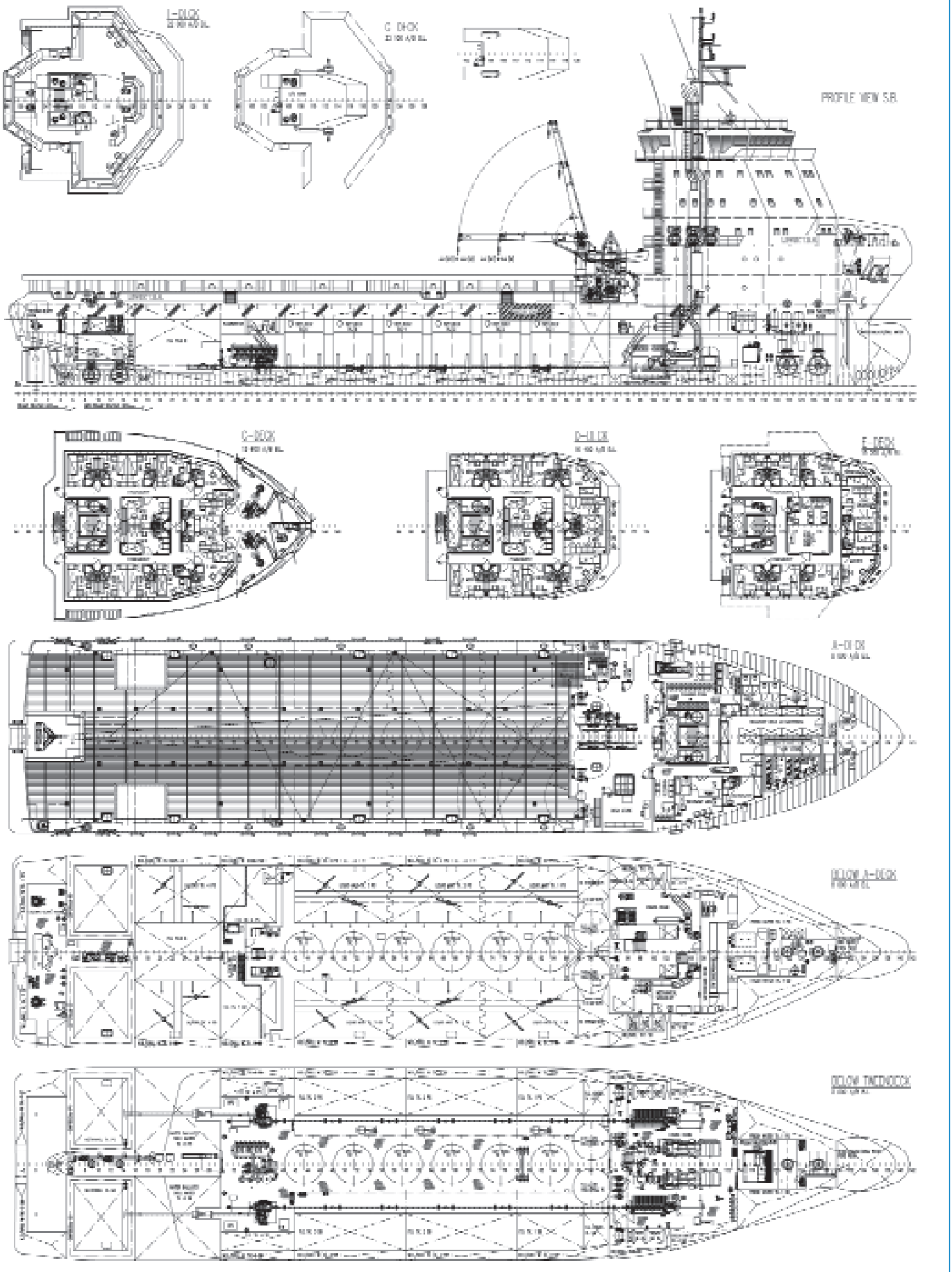
These events follow Remontowa entering into a contract with Lewek Shipping Pte Ltd., a subsidiary of Ezra Holdings of Singapore, for the construction and delivery of two Multipurpose Platform Supply Vessels of the MMC 887 CP design (with design supplied by Poland based **MMC Ship Design & Marine Consulting Ltd**).

The MMC 887 CP type vessels are designed and being built to meet the highest operation demands with the most cost efficient solutions, according to class requirements and under supervision of American Bureau of Shipping.

The versatile ships will serve predominantly as supply vessels, however they also have anchor handling and ocean towage capabilities. The vessels will be able

Computer renderization of PSV for Ezra Holdings.

General arrangement



to fulfill general supply service needs of contemporary offshore industry (between shore base, drilling sites and other ships) such as carriage of dry bulks, general supplies and liquid mud, general cargo, pipes on the open deck as well as special products like methanol. Versatile equipmment set and other facilities and features make the vessels very well suited to other specific tasks and charters, thus increasing its market value.

Measuring 87.90 metres in length, 18.80 metres wide and 8 m deep, the 5200 dwt vessels have a spacious deck area exceeding 900 sq m and an accommodation capacity for 60 persons.

In order to conduct oilfield support features, the vessels comply with Fi-Fi 1 and are equipped for oil recovery and safety standby assignments. Moreover, the vessels are equipped for safety standby rescue missions (up to 300 survivors) and oil recovery operation.

The vessels are designed so that they can carry out towage and anchor handling duties and are well suited for these tasks owing to features of the main deck (i.e. stern roller, towing winch), as well as due to hybrid propulsion drive provided.

The combination of electric drive used in supply mode and possibility of engagement of additional power from main engines directly via shaft lines to CP propellers gives the Owners necessary operational flexibility. In the supply mode, the vessels operate on electric drive. However, the main engines can provide additional directly via shaft lines to the CP propellers when extra power is required. DP2 (IMO Class 2 dynamic positioning system) gives adequate station keeping properties.

The new MPSV are being built in accordance with the latest SPS code. Moreover emphasis has been given to observe regulation of ABS ENVIRO class notation, a clear, internationally recognized credential that can be used to demonstrate Owner's commitment to operating with minimum adverse impact on the environment.

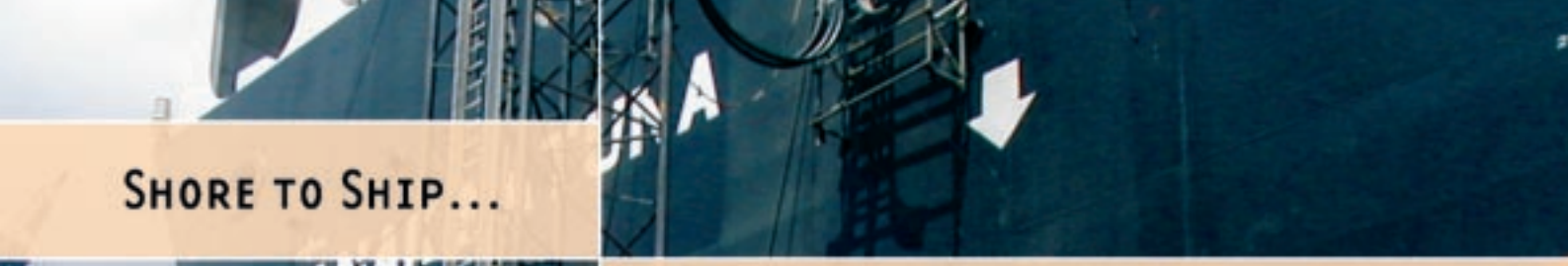
The ships will be operated, under Singapore flag, by EMAS, which is a recognized leading global offshore contractor providing construction, marine, production and well intervention services. EMAS is the operating brand of Ezra Holdings Limited. The company operates globally with offices in 16 locations across five continents spanning Africa, the Americas, Asia Pacific and Europe.

Asked about possible area of deployment of the ships being built at REMONTOWA Shipbuilding for operation in EMAS colours, Mr. B H Wong, executive director of EMAS explained: - *Because of the size, they will probably go to Africa or Brazil, unlikely to go to serve Asian offshore oil developments. In Asia you would rather not get the return on investment on such big and well equipped ships.*

REMONTOWA Group has a vast experience in newbuildings, conversions and repairs for the offshore industry. In the years 2003-2010 REMONTOWA Shipbuilding delivered some 25 AHTS vessels for such renowned owners as Tidewater, Edison Chouest and others, as well as 10 advanced *offshore* evacuation units for the Caspian Sea.

PioSta, rel

PRINCIPAL CHARACTERISTICS	
Length over all	87.90 m
Breadth moulded	18.80 m
Depth to main deck	8.00 m
Design draught	5.90 m
Speed	15 kn
DWT at 6,50 m	5200 t
Bollard pull	100 T
Complement	60
Tanks capacity	
- ballast/drill water	2000 m^3
- fresh water	555.00 m^3
- potable Water	95 m^3
- fuel Oil	950 m^3
- liquid mud	1980 m^3
- dry bulk	310 m^3
- methanol	200 m^3
Propulsion	
Main Engine	2 × 2000 kW (2680 HP), medium speed,
Gearbox	2 × reduction gears with PTO
Shaft line with proppeler	2 × CPP, ø 3000, in nozzles
Auxiliary machinery	
Main generating set	2 × 2250 kWe, high speed 3 × 690[V], 60 [Hz]
Emergency/harbour generator	1 × 320 kWe, 400 kVA high speed
Shaft generators	2 × 2500 kVA, medium speed
Deck equipment	
Towing winch	1 × 225 t
Tugger winches	2 × 10 t
Shark jaws & towing pins	1 set of 150t SWL
Deck crane	1 electro-hydraulic knuckle arm 2 t/4 m
Pumps	
Fuel oil	1 × 100 m^3 / h - 9 bar el. dr.
Fresh water	1 × 100 m^3 / h - 8 bar el. dr.
Ballast/Drill Water	2 × 100 m^3 / h - 9 bar el. dr.
Liquid Mud	4 × 150 m^3 / h - 14 bar el. dr.
Methanol	2 × 75 m^3/ h - 9 bar el. dr.
Bulk Handling System	2 × bulk mud compressors each 1100 m^3/h at 5,6 bar
Class	
+A1(E) Offshore Support \vessel, +AMS, +Oil Recovery Class 2, +ACCU, +DPS-2, + FFV Class 1, ENVIRO, UWILD, GPTCM, +Safety Standby Service GR B-I300) Special Purpose Ship	



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Destined for tough environment in the North…

Innovative LNG fuelled ferries

Fig.: LMG Marine

Following the winning of a 10 year concession contract for two state supported ferry routes, the leading Norwegian local ferry operator Torghatten Nord AS has gone shopping to European yards, including Norwegian ones, to order four new ferries with LNG propulsion. The yard of choice that emerged from tendering process was REMONTOWA Group.

The official announcement of the contract signed by the Norwegian Owners Torghatten Nord AS with Gdańsk Shiprepair Yard "Remontowa" SA came mid October, 2010. The contract calls for the construction of four ships that are expected to commence operation in Vestfjorden and surrounding waters in 2013 (with an option for the fifth ship). The ships in question will be modern, innovative, environmentally-friendly LNG fuelled ships featuring interesting, unconventional external architectural design. The initial and conceptual design of the modern SKS 120 type ferries was conceived by Bergen based LMG Marin with participation from Polish ship design company Midcon-Designer Ltd., in which LMG has shareholding interests, and the final design was developed in co-operation with "Remontowa's" own design office.

The first steel cutting for the ferry from this series took place at the turn of 2010 and 2011.

Safe choice

The decisive factor behind choosing Polish yard was its renown and experience gained during the construction of a series of LNG fuelled double-ended fjord ferries and similarly propelled gas tanker for operation mainly in Norwegian and

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MANAGING RISK

European waters. Following the contract signing, Bjørn Laksforsmo, the CEO of Torghatten, expressed his satisfaction with the decision.

- *Remontowa is a safe choice for us. They have extensive experience in the construction of various types of ferries and a solid expertise in gas ferries* - said Mr. Laksforsmo. - *In addition, we already have experience as we have four ferries under construction at this yard, which helps to give us additional confidence that the decision is right for Torghatten Nord. They won not only on price but also on quality and deliverability* - Bjørn Laksforsmo concluded.

Also, Captain Fred Halvard Fagermo, from the ferry *Bodo*, one of the vessels that shall be replaced by new gas ferries, is satisfied. - *This is clearly first step towards a new era, both for us who are onboard and for our passengers. We feel that there is a great interest around this tender and the new ferries - especially from the local population but also among tourism industry home and abroad* - said Captain Fagermo.

"Remontowa" in turn, sees the contract as the confirmation of its firm market position in Norway. Jan Paszkowski, director of commerce at REMONTOWA Shipbuilding, admits it is one of the most important contracts for "Remontowa" so far.

The new ferries will be employed in high traffic density Norwegian waters. The routes to be served by innovative ferries will be Bodø-Røst, Værøy-Moskenes and Lødingen-Bognes. They will each take 80 up to 120 personal cars onboard and 390 passengers. The service speeds in two variations of the design (with main engines of varied power installed) will be 12 up to 19 knots. The first ship is expected for delivery in 2013.

Photo: Piotr B. Stareńczak

Norwegian Prime Minister Jens Stoltenberg starting NC steel plate cutting machine at REMONTOWA Shipbuilding during first steel cutting for the fourth unit of the LMG 120 type LNG powered ferries series for Torghatten Nord under construction at REMONTOWA Shipbuilding.

PRINCIPAL CHARACTERISTICS	
length over all	93.00 m
beam	16.80 m
draught (approx.)	3.70 m
deadweight (approx.)	650 t
GT	4286
NT	1286
personal cars capacity	120 units
trailers / trucks	12 units
combination	12 trailers/trucks and 46 personal cars
lower car deck free height	2.50 m
upper car deck free height	4.50 m
bow ramp width	5.50 m
stern ramp width	11.50 m
internal ramp width	3.00 m
Range of operation	1900 NM
Endurance	5 days
Classification society	Polski Rejestr Statków
Class notation	PRS * KM RESCUE VESSEL II AUT NAV 1
Other rules and regulations	SOLAS-74, Marpol-73/78, COLREG-72

Technological breakthrough

"Remontowa" teams up with leading marine equipment manufacturers in construction of the new LNG ferries. Probably the most important factor allowing the "Remontowa" built ferries to be proclaimed a breakthrough in ship technology will be the installation of innovative propulsion system. As announced early February, Rolls-Royce, the global power systems company, has signed a GBP 20 million contract to supply engines and propulsion equipment for four gas-fuelled ferries to be built at "Remontowa" for the Norwegian operator Torghatten Nord AS. The vessels will be the first in the world to feature the Rolls-Royce Hybrid Shaft Generator (HSG), which produces electrical power with reduced fuel consumption and emissions. They will also include market leading lean-burn Rolls-Royce Bergen gas engines and the company's innovative integrated propeller and rudder system (Promas) that reduces drag and increases thrust. These technologies will combine to offer an unrivalled environmental performance, including a 40 per cent reduction in CO_2 emissions, compared to conventional vessels.

Rolls-Royce

Rolls-Royce Marine Poland provides Service and Spare Parts for the following **RR** makers **&** brands:

Sorted by maker:	Type of equipment:
Allen Diesel	Diesel Engines
Allison	Gas Turbines
Aquamaster	Azimuth Thrusters
Aquamaster Rauma	Winches
Baliño (KaMe Wa-License)	Propeller systems
Bergen Diesel	Diesel Engines
Bird-Johnson	Propeller systems
Bot (Hinze-License)	Rudders
Brattvaag	Deck Cranes
Brattvaag	Winches (Anchor-, Mooring, cable-)
Brown Brothers	Stabilisers
Brown Brothers	Steering Gears
Crossley Pielstick	Diesel Engines
Datasound	Tanksounding systems
FF	Waterjets
Frydenbo	Steering Gears
Fukushima (Brattvaag-License)	Winches (Anchor-, Mooring, cable-)
Hareid	Bulk Handling Systems
Hareid	Rudders
Hasty	Steering Gears
Hinze	Rudders
Hjelset	Propeller systems
IHI (Norwinch-Licence)	Winches (Anchor-, Mooring, cable-)
Intering	Stabilisers
KaMeWa	Azimuth Thrusters
KaMeWa	Podded Propulsion systems
KaMeWa	Propeller systems
KaMeWa	Tunnel Thrusters
KaMeWa	Waterjets
Kawasaki (Norwinch-License)	Winches (Anchor-, Mooring, cable-)
Liaanen	Gears & Gear boxes
Liaanen	Propeller systems
Liaanen	Tunnel Thrusters
Mar01	Hydraulic (Remote-) Control Systems
Mermaid	Podded Propulsion systems
Michell	Bearings
Mitsubishi (KaMeWa-License)	Propeller systems
NorDavit	Lifeboat systems
Norgear	Gears & Gear boxes
Normo Diesel	Diesel Engines
Norwinch	Winches (Anchor-, Mooring, cable-)
NyC-Design	Ship design
ODIM	Deck Cranes
ODIM	Cablehandling systems
ODIM	Winches
Pello	Tanksounding systems
Rauma	Winches
Rauma-Brattvaag	Winches (Anchor-, Mooring, cable-)
Rolls-Royce	Gas Turbines
Rolls-Royce	Nuclear Propulsion Systems
Rolls-Royce	Turbine generators
Rolls-Royce	Underway replenishment systems (navy)
Rolls-Royce Diesel	Diesel Engines
Seffle	Propeller systems
Seffle	Propeller systems
Seffle	Steering Gears
Spaco	Winches (fitted with Brattvaag hydraulics)
Spey	Gas Turbines
Stone-Manganese	Propeller systems
Stone-Vickers	Propeller systems
Svendborg	Steering Gears
Syncrolift	Shiplifts
Tenfjord	Steering Gears
Ulstein	Azimuth Thrusters
Ulstein	Bulk Handling Systems
Ulstein	Gears & Gear boxes
Ulstein	Propeller systems
Ulstein	Rudders
Ulstein	Tunnel Thrusters
Ulstein UT	Ship design
UMAS	Control & Automation Systems
Volda	Gears & Gear boxes
VTAS	Control & Automation Systems
Zamech (Liaanen-License)	Tunnel Thrusters

Sorted by type of equipment	Maker:
Azimuth Thrusters	Aquamaster
Azimuth Thrusters	KaMeWa
Azimuth Thrusters	Ulstein
Bearings	Michiel
Bulk Handling Systems	Hareid
Bulk Handling Systems	Ulstein
Cablehandling systems	ODIM
Control & Automation Systems	UMAS
Control & Automation Systems	VTAS
Deck Cranes	Brattvaag
Deck Cranes	ODIM
Diesel Engines	Allen Diesel
Diesel Engines	Bergen Diesel
Diesel Engines	Crossley Pielstick
Diesel Engines	Normo Diesel
Diesel Engines	Rolls-Royce Diesel
Gas Turbines	Allison
Gas Turbines	Rolls-Royce
Gas Turbines	Spey
Gears & Gear boxes	Liaanen
Gears & Gear boxes	Norgear
Gears & Gear boxes	Ulstein
Gears & Gear boxes	Volda
Hydraulic (Remote-) Control Systems	Mar01
Lifeboat systems	NorDavit
Nuclear Propulsion Systems	Rolls-Royce
Podded Propulsion systems	KaMeWa
Podded Propulsion systems	Mermaid
Propeller systems	Baliño (KaMeWa-License)
Propeller systems	Bird-Johnson
Propeller systems	Hjelset
Propeller systems	KaMeWa
Propeller systems	Liaanen
Propeller systems	Mitsubishi (KaMeWa-License)
Propeller systems	Seffle
Propeller systems	Seffle
Propeller systems	Stone-Manganese
Propeller systems	Stone- Vickers
Propeller systems	Ulstein
Rudders	Bot (Hinze-License)
Rudders	Hareid
Rudders	Hinze
Rudders	Ulstein
Ship design	NyC-Design
Ship design	Ulstein UT
Shiplifts	Syncrolift
Stabilisers	Brown Brothers
Stabilisers	Intering
Steering Gears	Brown Brothers
Steering Gears	Frydenbo
Steering Gears	Hasty
Steering Gears	Seffle
Steering Gears	Svendborg
Steering Gears	Tenfjord
Tanksounding systems	Datasound
Tanksounding systems	Pello
Tunnel Thrusters	KaMeWa
Tunnel Thrusters	Liaanen
Tunnel Thrusters	Ulstein
Tunnel Thrusters	Zamech (Liaanen-License)
Turbine generators	Rolls-Royce
Underway replenishment systems (navy)	Rolls-Royce
Waterjets	FF
Waterjets	KaMeWa
Winches	Aquamaster Rauma
Winches (Anchor-, Mooring, cable-)	Brattvaag
Winches (Anchor-, Mooring, cable-)	Fukushima (Brattvaag-License)
Winches (Anchor-, Mooring, cable-)	HI (Norwinch-Licence)
Winches (Anchor-, Mooring, cable-)	Kawasaki (Norwinch-License)
Winches (Anchor-, Mooring, cable-)	Norwinch
Winches (Anchor-, Mooring, cable-)	Rauma-Brattvaag
Winches	Rauma Repola
Winches (fitted with Brattvaag hydraulics)	Soaco
Winches	ODIM

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Fax: 48 58 782 06 56

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Service.Poland@rolls-royce.com

HSG is an advanced electrical system that enables a step-change in ship efficiency by varying engine and propeller speed to reduce fuel consumption and consequently lower emissions. Ships' engines traditionally operate at a fixed speed when conventional shaft generators are in use, but HSG allows shaft speed to be reduced, while maintaining a constant frequency for the electrical supply throughout the ship. The configuration of the innovative propulsion system on "Remontowa" built ferries for Torghatten will also enable to use the shaft generators as emergency "take me home" propulsion motors.

Hamworthy in turn has signed a contract to install liquefied natural gas storage tanks and fuel systems on board four gas-powered ferries in question. Hamworthy Oil & Gas Systems will deliver the fuel gas systems as sub-supplier to Rolls-Royce, which has been awarded the contract for complete propulsion systems. Each system, being built in Hanjung Shipyard, China, will feature 150m^3 capacity storage tanks designed by Hamworthy.

The fuel has to be evaporated and warmed before it may be used as fuel in a gas engine. Hamworthy Oil & Gas Systems has extensive experience in handling cryogenic liquids and is today utilising this experience as supplier of fuel gas systems for modern gas engine ships. Hamworthy will deliver the complete storage and handling systems, including bunkering stations on board to handle refilling of the ships' 150 m^3 LNG tanks in less than one hour and evaporation and heating of the LNG from approximately -145°C to +30°C.

Four new LNG-powered RoPax ferries, destined for service in the Norwegian fjords in the North, will feature a suite of MacGregor RoRo access equipment from Cargotec. The delivery will cover the following set of MacGregor cargo access equipment: bow visor and door with folding ramp, stern door and ramp, two ramp-covers and engine service hatch and two power-packs.

Among other notable suppliers for the ships described here, Norwegian-based Brude Safety will deliver Marine Evacuation Systems (MES).

PioSta, rel

Smaller ferries under construction

Besides the larger LNG fuelled ferries described above, the company is currently building also four small ferries with a capacity of 16 and 21 cars respectively at Remontowa Shipbuilding SA for delivery in 2011 and destined for operation in four routes in the Troms and Møre og Romsdal counties.

These smaller ferries, are represented by *Rebbenesøy* (destined for the route Mikkelvik-Bromnes), *Uløytind* (Rotsund-Havnnes-Klauvnes), *Vengsøy* (Belvik-Vengsøy) and the recently launched *Kvaløy* (Utasundsambandet / Møre og Romsdal).

The two first units mentioned here by name represent the 35.9 m long, 10.05 m wide, 4.0 m draught design, to be propelled by two Volvo D16 main engines rated at 442 kW, each driving a Schottel azimuthing propulsion thruster and to reach the service speed of 12 knots. These ships will be able to carry 16 personal cars and up to 48 passengers, with the crew of 3 persons. Auxiliary propulsion will be provided by a single Volvo D7 type, 130 kW power engine. All the four ferries in two designs are expected to be delivered within the year 2011.

The design of the B611 type ferries (represented by the recently launched *Kvaløy*) was conceived in cooperation between the Norwegian ship design and consulting company NSK AS and the Remontowa Marine Design & Consulting Sp. z o.o.

Computer renderization of SKS 21 type ferry

Computer renderization of SKS 16 type ferry

KLIMOR

przyjemność żeglowania

CKJ

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SOLUTIONS FOR THE COMFORT OF SAILING

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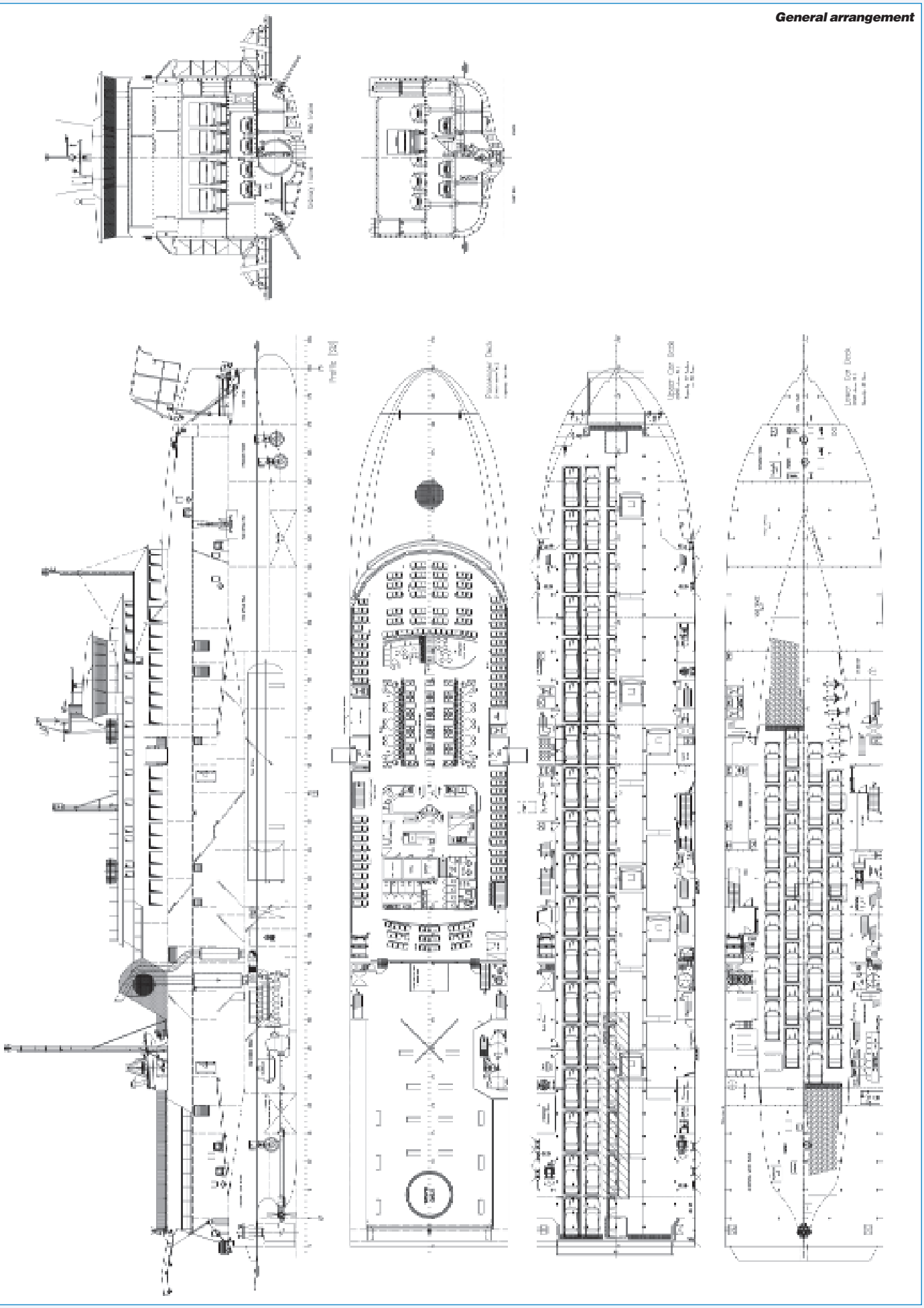
General arrangement



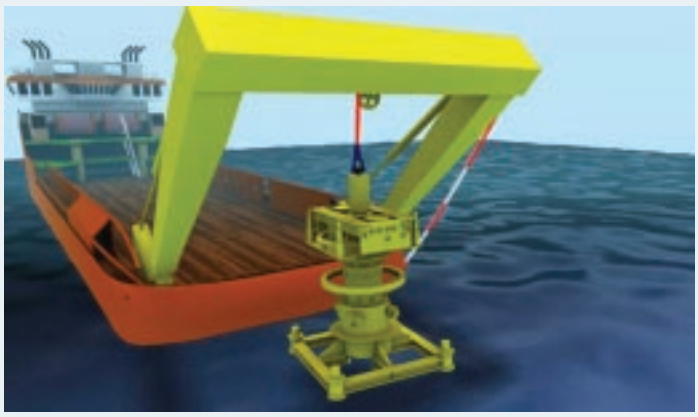
Bosch Rexroth

for marine industry and off-shore applications

Bosch Rexroth has been present on the marine market for several dozen of years both in the sector of standard products as well as of customized ones that meet specific requirements and are offered under the turnkey basis. The products dedicated to marine applications fulfil a number of demands, including:

- resistance to contact with seawater,
- possible installation on open decks of vessels,
- operation in potentially explosive atmospheres - EX,
- operation in seawater in deep sea.

Products offered by Bosch Rexroth meet requirements of Classification Societies and can be delivered with relevant certificates to confirm the latter. The scope of such products covers the following types: hydraulic power packs, hydraulic pumps and motors, including also Hagglunds drives, hydraulic cylinders including the cylinders with piston rods coated with Ceramax – the special ceramic coating and with the Ceramic Integrated Measuring System – CIMS for measurements of cylinder stroke, valves, distributors, manifolds and valve blocks, including specialized units for winches, system for monitoring and control such as MAREX AMC, remote propulsion control Marex OS and SB, FIVA valves for marine Diesel engines as well as many other type of equipment. They find application for drive and control systems installed on ships and are used for such appliances as mooring, windlass, towrope and fishing



net winches as well as for steering machinery, driving systems for hatch covers, thrusters and drives for cargo pumps, deck cranes, stabilization systems, propellers and many others.

The further extension of the offer for Bosch Rexroth products for the marine market are delivery packages of complete drive and control systems for maritime equipment. These packages base on a wide range of own products, long-term experience, very specific and sometime really unique technology, reliable and efficient operation of all the equipment. Bosch Rexroth supplies these systems under the turnkey basis starting from development of the concept and basic assumptions in collaboration with the customer, via detailed engineering, assembly, designing of hydraulic systems, commissioning and start-up of the delivered systems with further services for products and systems.

Examples of systemic solutions

- for the offshore technology: 'jack up' system for lifting drilling platforms as well as barges that provide services for wind farms; 'skidding systems' – systems for translocation of a drilling unit within the drilling platform; 'deck mating' systems for installation and dismantling of drilling platforms; systems for active heave compensation both for linear (LAHC) and rotary (RAHC) principle;
- for the dredging technology: complete drive and control systems for equipment that is installed on various types of dredgers and dump barges
- for naval vessels: underway replenishment (UNREP) systems both for goods (replenishment-at-sea – RAS) and fuels (fuelling-at-sea – FAS), helicopter-transfer-systems (HAS) to move helicopters from carrier decks to hangars, Arresting Gears to capture aircrafts landing on carriers as well as many other systems and subsystems;

- other systems associated with marine and naval technologies, including docking systems for vessels: shiplift and transfer system on the shipyard area, equipment for hydrotechnical laboratories – waving generators.

Components and systems from Bosch Rexroth can be met both on small vessels, such as sailing or motor yachts as well as on big vessels, merchant and passenger ships, ferries, naval ships, drilling platforms and special units, such as vessel for servicing wind farms erected in the sea.

Combination of the cutting edge technology, long-term experience within many areas linked to the marine market is the reason that makes it possible to perceive Bosch Rexroth as a competent and well-proved partner.

Bosch Rexroth Sp. z o.o. is a leading specialist in the field of drive and control technologies. Being a subsidiary of Bosch Rexroth AG, under the brand name of Rexroth the company supplies more than 500,000 customers with tailored solutions for driving, controlling and moving. Bosch Rexroth is a partner for industrial applications and factory automation, mobile applications and using renewable energies. As The Drive & Control Company, Bosch Rexroth develops, produces and sells components and systems in more than 80 countries. In 2010 Bosch Rexroth AG, part of the Bosch Group, achieved sales of around 5 billion Euro with 35,300 employees.

For more information please visit:
www.boschrexroth.pl

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Customer requires:
a competent partner with adequate experience

Solution:
apply hydraulic devices from Rexroth

Rexroth – merge of technologies from a single supplier

Bosch Rexroth, the worldwide recognized manufacturer of drive and control systems, offers also comprehensive solutions for application in the marine industry. The turnkey offer covers development of a concept, detailed engineering, deliveries, erection as well as on-site start-up and commissioning. Upon request of our customers we also offer post-warranty services. The Bosch Rexroth service network is available worldwide.

We offer hydraulic components and drive and control systems for deck reloading equipment, mooring winches, towing winches, anchor windlasses, capstans as well as comprehensive drive solutions for fishing equipment on fishing vessels. We acquired wide experience in application of our products to drive and control rudder gears, main hydrostatic propulsion, bow thrusters, cargo systems for tankers and chemical cargo carriers. For many years our company has also majored in control systems for main engines where pneumatic or electronic control of the MAREX type is applied.

Bosch Rexroth. **The Drive & Control Company**

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www.boschrexroth.pl

Rexroth
Bosch Group

Photo: Naval Shipyard Gdynia

SAR vessel* Orkan *in sea trials.

Modern rescue vessels

Naval Shipyard Gdynia and REMONTOWA Shipbuilding - have been recently building a series of three SAR-3000 type (Polish design) state-of-the-art search and rescue vessels for Polish SAR operations. Another builder - Gdansk Shipyard - is close to sealing a deal for the construction of Polish designed rescue vessels for Vietnam.

On the 18th of June 2010 the official contract concerning the construction and delivery of a rescue ship SAR-3000/III was signed between The Maritime Search and Rescue Service in Gdynia and Gdansk Shiprepair Yard "Remontowa" S.A. Putting the ship into service is scheduled for the first quarter of 2012, thus ending the process of adjusting the maritime rescue service fleet of SAR to the current European standards.

The three modern ships in the series described here are the achievement of Polish technical thought - designed by Polish design office - Naval Engineering & Design NED of REMONTOWA Group - and built in Polish shipyards. The building of the vessels is partly financed by UE as part of The Operational Program Infrastructure and Environment 2007 - 2013.

The contract signing concerning the newbuilding SAR-3000/III was followed, on 29 September 2010, by the first steel cutting for the ship (yard no B812), which took place at Northern Shipyard (now REMONTOWA Shipbuilding).

Previously, two ships of the same design (SAR-3000/I and II) have been built at Naval Shipyard Gdynia SA.

Earlier - on 6 September Naval Shipyard Gdynia saw the launching of the search and rescue vessel SAR 3000 for the Maritime Search & Rescue Service. The vessel was named *Pasat* - the second in a series of three ships of that type. The first, called *Orkan*, was launched at the same shipyard three months earlier, i.e. on 11 June. The unit was delivered to Polish SAR service on 15 March 2011. As we went to press, the

second of those two units was nearing completion and delivery, while the third one - to be named *Sztorm* - was under construction at REMONTOWA Shipbuilding.

The main purpose of the SAR-3000 type vessel is to carry out activities related to the search and rescue of human life at sea under all hydrological and meteorological conditions.

The main purpose of the vessel is search and rescue operations, also in bad weather conditions, at Baltic Sea including:

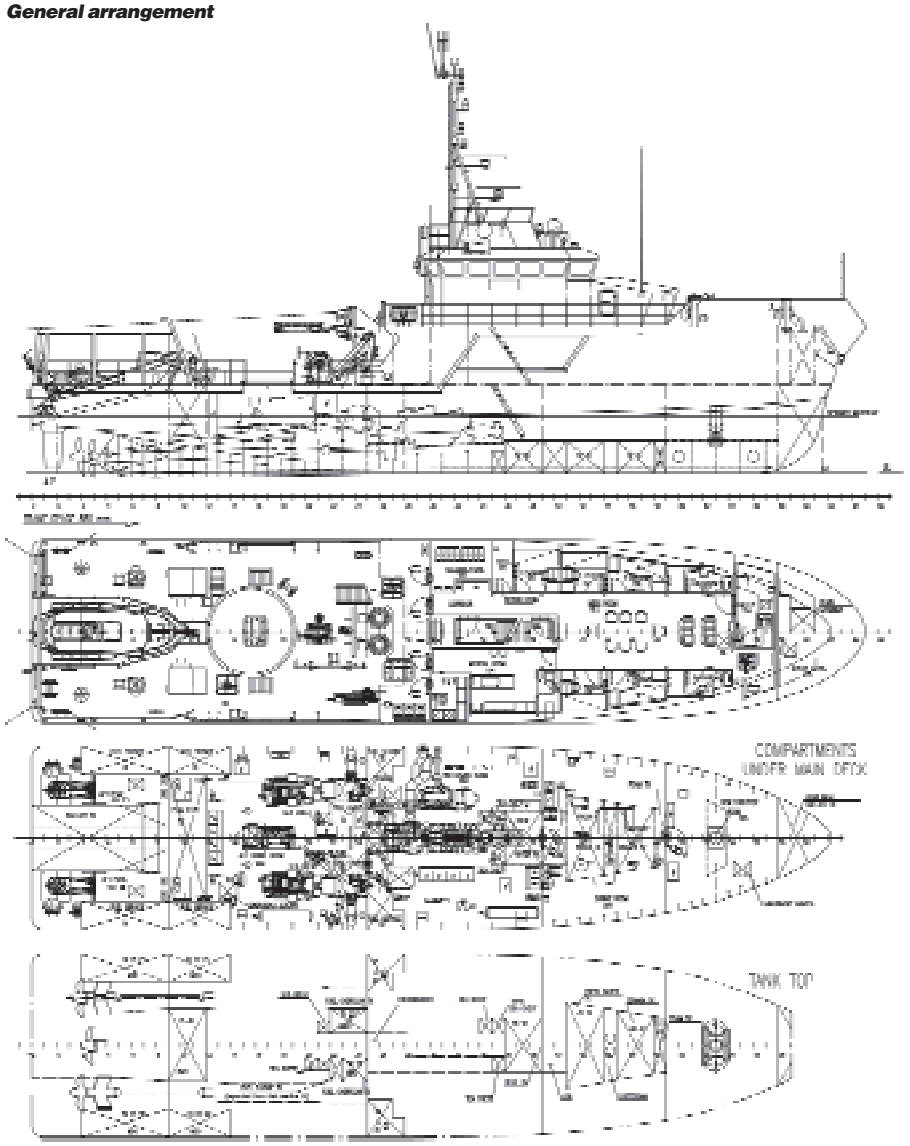
- evacuating of survivors from other vessels, lifeboats or directly from water surface
- providing medical first aid to injured
- co-operation with helicopter
- towing of small vessels up to 25 m in legth
- fire-fighting with water-foam monitor
- rescue diving support up to 20 m depths
- supplying of fuel to SAR vessels
- providing electrical power to salvaged ships / ships in distress
- oil pollution recovery.

Made of aluminium, SAR 3000 type vessels are light and fast - reaching the speed of up to 24 knots, owing to total main propulsion power of 4920 kW installed. The vessel of SAR 3000 design is a self-righting ship that may operate at sea in all weather conditions. Hull strengthening allows for operation in ice conditions. With a length of nearly 37 m and breadth of 8.1 m, the ship may accommodate 150 recovered / saved people onboard.

The ship features all aluminium hull and deckouse, one continuous deck, forecastle and two-level deckhouse. There is a fast rescue boat slip at the closed stern.

The steering and manoeuvring is effected with two suspended rudders, with steering gear from ZUO Hydroster, and Schottel bow thruster. The MTU main engines are placed in two separate, independent engine rooms. Outer propellers are of controllable pitch type, while the central propeller is fixed pitch unit. Two sets of controllable pitch propellers (type: P500/4) and one set of fixed pitch propeller and complete shaft line for each vessel has been delivered by Elbląg (Poland) based Scana Zamech Sp. z o.o.

General arrangement



PRINCIPAL CHARACTERISTICS	
Design	REMONTOWA Marine Design & Consulting Sp. z o.o. (previously Naval Engineering & Design NED Ltd.)
Builders	Naval Shipyard Gdynia SA, REMONTOWA Shipbuilding (formerly Stocznia Północna SA - Northern Shipyard)
Delivery	2011 and 2012
Owner	Maritime Search & Rescue Service (Służba SAR) - Gdynia
Length o.a.	36.90 m
Length b.p.	33.85 m
Breadth moulded	8.10 m
Breadth max (including fendering)	8.42m
Depth to main deck	3.90 m
Draught moulded	2.50 m
Displacement	235 t (approx.)
Gross tonnage	276
Speed (max)	24 knots
Speed (service)	15 knots
Range of operation	1900 NM
Endurance	5 days
Classification society	Polski Rejestr Statków
Class notation	PRS * KM RESCUE VESSEL II AUT NAV 1
Other rules and regulations	SOLAS-74, Marpol-73/78, COLREG-72

Photo: Piotr B. Starenczak

Thor *in Gdynia.*

Thor for tough tasks
in windy offshore areas

Working far offshore amid the strongest winds and turbulent seas requires thorough preparation and durable equipment. German construction giant Hochtief is also expanding the possible range of applications for wind farms, thanks to its Thor jack-up platform. The platform has been built in Poland, at Crist Shipyard.

With its 82 meter long legs, the platform named after the Norse god of thunder can be used in waters up to 50 meters deep. This unit belongs to a new breed of larger and more powerful jack-up platforms, that are required in order to be able to work safely and efficiently, while fulfilling the high demands for the installation of offshore wind farms.

The company Overdick GmbH & Co.KG of Hamburg was commissioned by Hochtief with the task of planning and the design of the ship's hull which started in spring 2007. During this period, Germanischer Lloyd (GL) reviewed the basic design of *Thor*. Until 2008, a range of external partners was assigned with the design and the detailed engineering of the individual ship systems (insulation, sprinkler system, air conditioning and ventilation systems, power supply, electrical work, piping, fitting of the cabins and other rooms, etc). Due to optimization of design, the originally planned payload of 2,500 t was exceeded by almost one - third.

The steel structural work for *Thor* was initiated in Greece, however the Hellenic Shipyards has not lived up to the task.

In January 2009, the Polish Crist Shipyard was commissioned to build *Thor*. After delivery of the steel parts from Greece to Poland, which was a huge logistics challenge in itself, the actual shipbuilding process began in February 2009 in Gdansk.

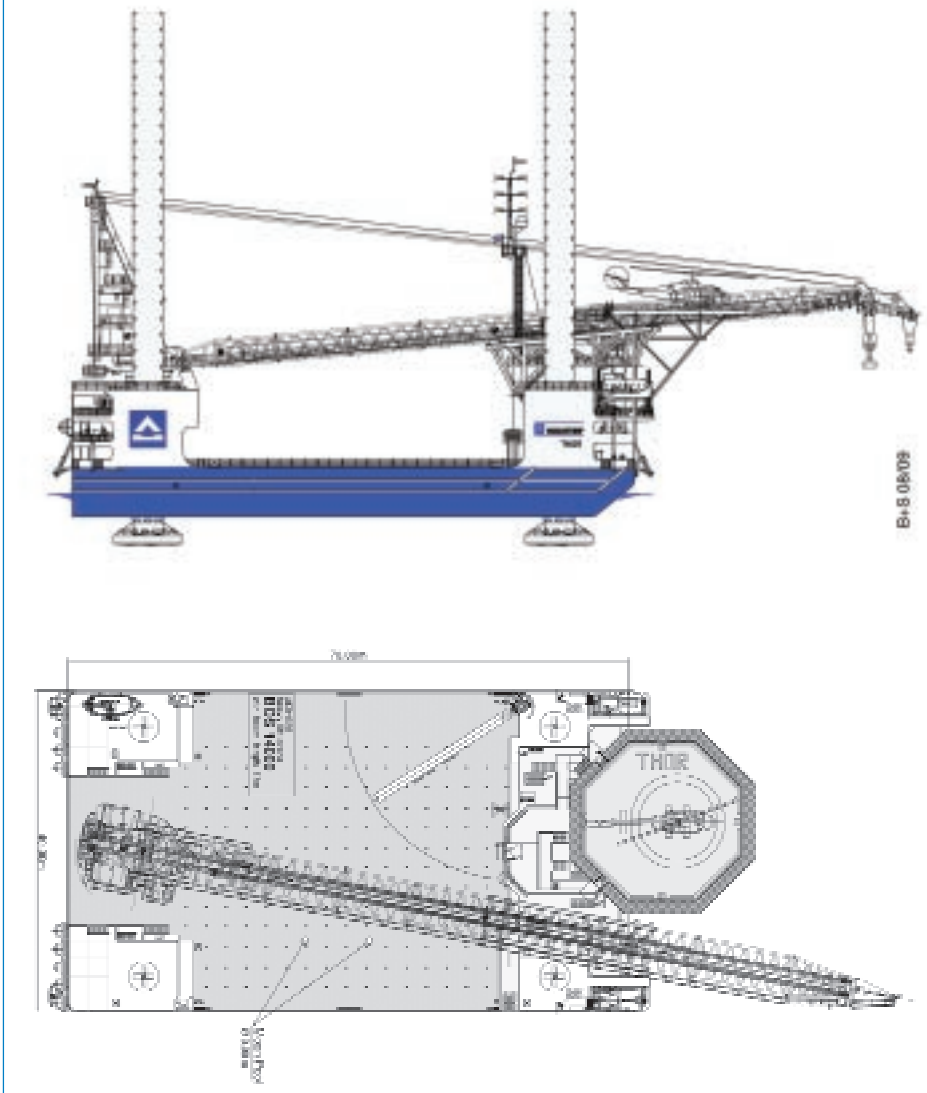
The ship's hull was initially built by Crist in the dry dock of the former Gdynia Shipyard, mostly with the workers from Gdynia Shipyard. After undocking *Thor's* pontoon in Gdynia in July 2009, the launched hull was towed to Crist Shipyard facilities in Gdansk, where the remainder of the assembly work on *Thor* was completed and outfitting commenced.

In January 2010, the partially pre-assembled heavy-duty crane was delivered onboard Polish - built ("Remontowa") haevy-lift deck cargo vessel *Aura* and installed. The 500 t offshore crane (Liebherr BOS 14000), made up of three parts, was installed on *Thor* at the beginning of February 2010 as well as rigged and configured for its future applications.

In early March 2010, the almost fully completed *Thor* was towed from Gdansk to Gdynia to have the legs fitted. The four 82 m long and 550 t cylindrical steel columns with a diameter of 3.7 m were finally fitted in the Crist Shipyard. They were built by EEW in Rostock, while LMG in Lübeck undertook the interior work. Some higher quality steel was used to prepare *Thor* for the tough conditions xpected in offshore construction. For this reason, parts of *Thor*'s legs are made of S690 steel. The jack housings, which contain the hydraulic lifting cylinders, via which the platform is moved up and down on the legs, consist in part of S550 steel.

PRINCIPAL CHARACTERISTICS OF *THOR*	
Length	70.00 m
Width	40.00 m
Depth	6.00 m
Draft (without spudcans)	3.50 m
Draft (with spudcans)	7.40 m
Max. operating depth	50 m
Payload	3300 t (subject to SSA)
Deck load	15.00 t/m^2
Hoisting capacity	10 000 t
Hoisting speed	up to 1.20 m/min
2 Moon Pools	ø 0.90 m
Open deck area	1850 m^2
Leg dimensions	length 82 m, dia. 3.70 m, spudcans ø 8.50 m
Heavy-lift crane	Liebherr BOS 14 000
Heavy-lift crane capacity	500 t / 15.00 m
Mooring winches	4 single winches, pull 30 T each
Power supply	diesel/electric
Total output	5010 kW
Emergency generator	400 kW
Accommodation	48 persons
Classification	GL +100 A5 Self Elevating Unit + A - MC Aut

General arrangement



Building the platform in extreme weather conditions presented other difficulties as well. For example, during the winter of 2009/2010, the work continued at temperatures as low as -22°C and during persistent snowfall.

One advantage of *Thor* is its size, as it was designed to operate in greater depths of water, and another is its maximum load bearing capacity, which, at 3,300 tons, is almost quadruple that of the Hochtief's first jack-up platform *Odin* (900 t). *Thor* is also unique in its rapid elevating speed of 1.2m per minute. Combined with its 500-ton crane, the new elevating platform is at present the only one of its kind on the market. *Thor* can rise up from depths of 50 m. Its over 80 m long legs are pushed into the sea bed, lifting the 70 by 40m pontoon out of the water. The permanently installed heavy-duty crane has a capacity of 500 tons. With a payload of 3,300 tons, 1,850 square meters of open deck space and a deck load capacity of 15 tons per square meter, the new jack-up platform enables maximum working efficiency.

Four moveable thrusters enable *Thor* to position itself independently on-site. The helicopter deck allows the crew to be transported faster and more easily. As an added comfort, the comprehensive cabin furnishings and recreation areas are exceptional for ships of this size.

Thor provides all requirements for port building, working on existing shipping routes, pile foundations of large-scale bridges and for the development of new offshore projects.

Approximately 6,400 tons of steel, 150 tons of piping and 118 kilometers of cable were used to build *Thor*. Over 320 planning documents were required for the detailed design of the jack-up with all specifications.

Following final test runs off the coast of Gdansk and in Gdynia port, the jack-up platform was transferred by tugboats across the Öresund, via Helsingborg and Skagen to Bremerhaven in April 2010, and performed its first job at the same time: It carried lifting decks for building the Kaiserschleuse lock in Bremerhaven.

Shortly after its birth at Polish yards, *Thor* became a celebrity. It was praised by international wind power industry specialists (from the conference venue) as it was being towed into the port of Hamburg during Hamburg Offshore Wind Conference and was also an element of landscape behind the windows of conference site at conference dinner.

Innovation I – the only one of its kind...

Hochtief, however, has not restricted itself, as an offshore wind power scene player, to development and operation of *Thor*.

Fig.: Hochtief

Computer graphics rendering of the newbuild installation vessel under previous Beluga Hochtief markings.

In 2010, Hochtief teamed up with Beluga Shipping to develop a stronger presence in the offshore wind industry. The move resulted in the ordering of a newbuild wind turbine installation vessel (WTIV). The ship has been ordered from the same yard that had built *Thor* - Crist. Meanwhile, the plans were disrupted though, when Beluga filed for bankruptcy earlier this year, but Hochtief was committed to continue with this business. The situation has been recently resolved. The arrival of GeoSea to replace heavy lift shipping company Beluga in what was the Beluga Hochtief Offshore GmbH joint venture will allow plans for the wind turbine installation vessel (WTIV) to remain on track. After restructuring of the German heavy lift shipping company, its share in the venture has been taken over by GeoSea, member of the DEME Group from Belgium (with financial effect on 1 June 2011). The new company named HGO Infra Sea Solutions GmbH & Co KG is owned 50% by each of the two partners.

The new ship, WTIV ordered still by Beluga Hochtief joint venture, under con-

struction in Gdynia (at Crist Shipyard, on the premises the part of assets of now defunct Gdynia Shipyard closed in 2009) is to be named *Innovation I* and is described by its prospective owners and operators "the most sophisticated heavy-duty jack-up lifting vessel on the offshore market, ideally suited for the installation of all types of offshore foundations" and said to be "the only one of its kind in the world".

Being a technical innovation, this vessel with a payload of 8,000 tons and a crane capable of 1,500 tons will operate in water depths of up to 50 meters. The vessel will feature 12 knots service speed. Operational flexibility will be ensured by wide range environmental conditions limits, with significant wave height for jacking and DP up to 2.00 m and wind speed for crane operation up to 18 m/s.

The unit is due for delivery in mid-2012, and is reportedly already been chartered long-term, including by AREVA, as well as already booked for construction of the 80 turbine, 400MW, Global Tech I wind farm in the German sector of the North Sea.

Recently (early August) it was announced that the second similar ship was covered by preliminary newbuilding order from Crist Shipyard.

PioSta, rel
(article based partly on Hochtief press material)

PRINCIPAL CHARACTERISTICS OF *INNOVATION I*	
Type of vessel	Heavy-lift jack-up vessel, self-propelled
Length of hull (overall)	147.50m
Breadth of hull	42.00m
Depth of hull	11.00m
Water depth for jacking	up to 50 m
Operating draft	5.70 m min / 7.33 m max
DP capability	complying with DP2 requirements
Number of legs	4
Leg cross section	lattice leg
Jacking system	rack and pinion
Jacking speed	1 m/min
Accommodation	up to 100 persons incl. crew.
Helideck	D=22.80 m, suitable for Sikorsky S92 with a MTOW of 12.8 t
Vessel speed	12 knots
Crane type	around the leg
Crane capacity (SWL)	1,500 t @ 31.5 m
Cargo load	up to 8,000 t
Sample scenarios	up to 7 WTG / 6 MW+ 2 jackets up to 1,000 t incl. piles 4 jackets up to 600 t incl. piles 7 monopiles up to 500 t

Photo: Piotr B. Stareńczak

Finlaggan *sets sail...*

Another ferry for Scottish Owners

REMONTOWA Group is one of the leading European builder of short range, road (double-ended) and local (inter-island, mainland-island) car and passenger ferries operating mainly in Norwegian and Scottish waters. May 2011 saw yet another delivery of handy ferry from REMONTOWA.

Earlier REMONTOWA Group had completed two highly successful ferries operated by CalMac, slightly smaller than *Finlaggan*, before. These were *Argyle* and *Bute* operated on the route from Wemyss Bay to Rothesay. *Bute* was included in the 2005 edition of prestigious publication of Royal Institution of Naval Architects - "Significant Small Ships of the Year".

Following successful sea trials in Gdansk, Caledonian Maritime Assets Limited (CMAL) took delivery of the *Finlaggan* ferry on May 11, 2011. It is the brand new vessel that serves the Kennacraig to Islay route in Scotland.

Gdańska Stocznia "Remontowa" im. Józefa Pilsudskiego S.A. deliver the vessel in Gdańsk, and CMAL immediately bareboat chartered the vessel to the operator - CalMac Ferries Limited (CFL).

The new 90 m long vessel is a modern ro-ro Euro Class B passenger ferry with capacity for 550 passengers and 85 cars, or the equivalent coaches and commercial vehicles.

The ferry, with 34 crew berths, boasts three passenger decks, an observation

Photo: CMAL

Bow ramp on *Finlaggan*.

Photo: CMAL

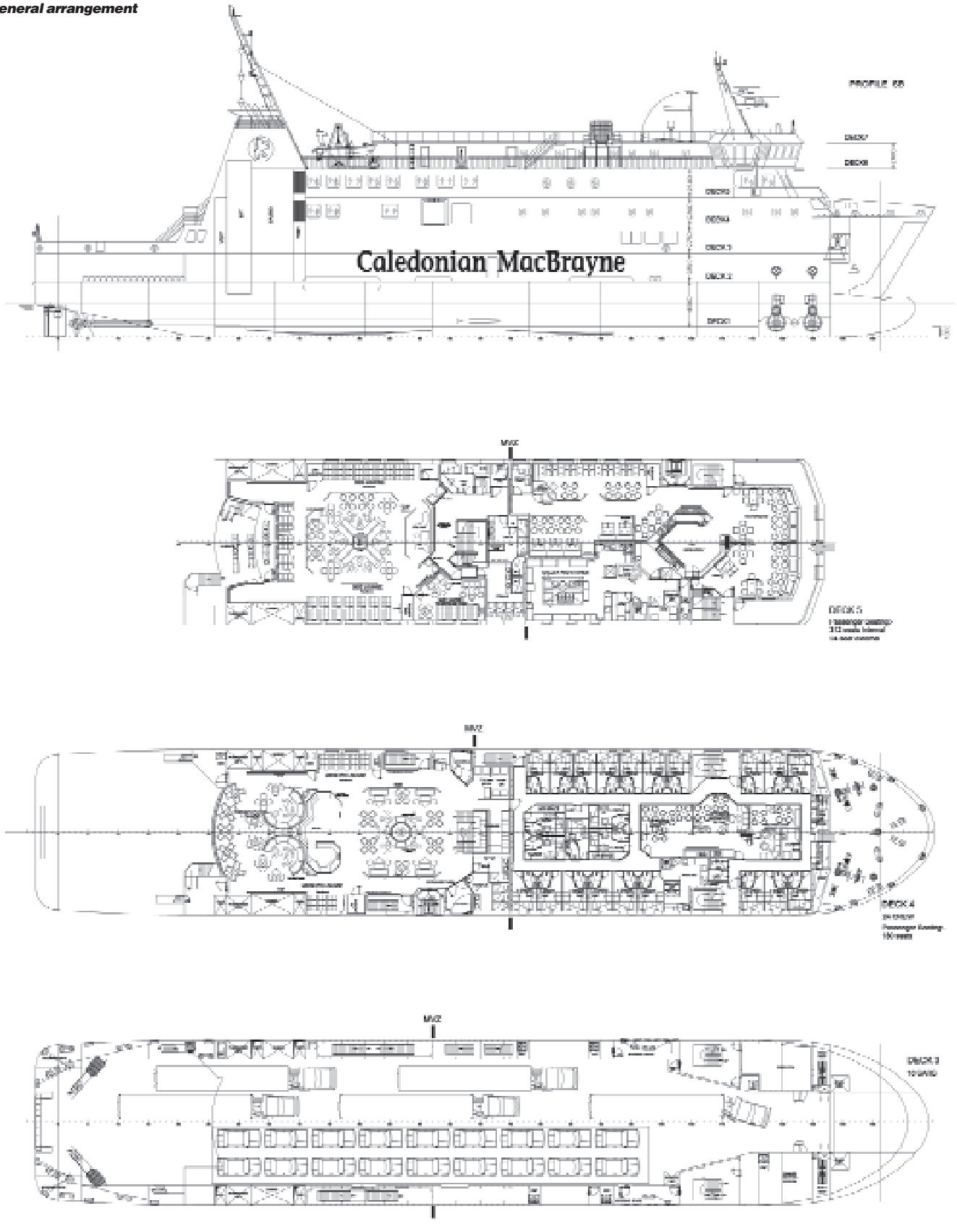
Stern ramp.

lounge, reclining seats and quiet lounge, restaurant, shop, children's play area, two decks of external panoramic seating and two disabled lifts accessing all decks, including the outside upper deck. The vessel has been built by Remontowa Shipbuilding Yard S.A. in accordance with Disabled Persons Transport Advisory Committee (DPTAC) and European Directive 2003/24/EC requirements.

The vessel was contracted by CMAL in November 2007 and is the first new ship to serve the Islay route in almost 40 years.

The vessel was completed on time and commenced sailing from Kennacraig to Port Askaig initially, while infrastructure works are completed at Port Ellen.

General arrangement



PRINCIPAL CHARACTERISTICS	
Length over all (LOA)	89.80 m
Length b.p.	81.80 m
Breadth moulded	16.40 m
Depth moulded to main deck	5.50 m
Depth to upper deck	11.20 m
Design draught	3.40 m
Gross tonnage	5209
Net tonnage	1562
Passengers	550
Personal Car Units (PCU) /or trucks	
- on Main Deck - on Mezzanine Deck	66 cars or 10 articulated lorries / coaches 18
Crew	34
Passenger facilities:	3 passenger decks with observation lounge, reclining seat lounge, quiet lounge, restaurant, shop, children play area, two disabled lifts, two decks of external panoramic seating.
Speed	16.5 knots
Trailers and cars	470 tons
Deadweight (summer freeboard)	740 tons
Rules	The ferry complies with the Lloyd's Register of Shipping (LR) rules and regulations.
Classification society	Lloyd's Register
Class	+ 100A1, Passenger and Vehicle Ferry, *IWS, EP, EU(B), + LMC, UMS, NAV1, PCAC33, Green Passport, LI

Commenting on the handover, Guy Platten, Chief Executive of CMAL said: - *We are delighted to see this project reach fruition on time and on budget, which has been down to excellent teamwork between CMAL as the owners and project managers, CFL as operator and the shipyard in Gdansk.*

CMAL own property at piers and harbours at more than 24 locations throughout Scotland. In addition to its pier and harbour facilities, CMAL owns 30 ferries which are leased to CalMac Ferries Ltd and Cowal Ferries Ltd for use on ferry services on the Clyde and Hebrides. CMAL is a publicly owned company with Scottish Ministers as the sole shareholder.

Strong involvement in the project has come from Remontowa Marine Design and Consulting Ltd (RMDC). Upon Client's concept design, REMONTOWA Group's ship design and marine engineering consultancy prepared all class drawings, workshop and as-built documentation including Intact Stability & Loading Manual Booklet. RMDC has supervised all stages of the vessel construction, outfitting and trials.

The May 2011 delivery of *Finlaggan* follows launching, which took place on June 30, 2010, under newbuilding no. B 608/1. This was the third vessel launched and delivered from REMONTOWA Group for operation in livery of renowned Scottish ferry operator Caledonian MacBrayne (CalMac).

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Photo: Piotr B. Starericzak

Bon voyage and good luck!

Optimised and reliable propulsion solutions

The history of Scana Zamech dates back to 1837 when Ferdinand Gotlob Schichau opened a machine workshop "Schichau Werke" in Elbląg, Poland. The workshop manufactured elements for steam engines, equipment for sugar factories, oil mills and lumber mills as well as hydraulic presses and rollers. From "Schichau Werke" a few years later the first seagoing ship with a steel hull and a propeller was launched in 1855. After some changes on the owner side through the years, Scana Industrier ASA took over the company through the acquisition of ABB's marine businesses in Poland.

Scana Industrier ASA (Scana) is a Nordic industrial group operating in three business areas: Steel, Marine and Oil & Gas. The group has operative companies in Sweden, Norway, Poland, USA, Brazil, South-Korea, Singapore and China and provides a complete range of propelled propulsion solutions starting from the engine output all the way to the complete propellers often including bow thrusters, gear boxes, shaft alternators and many other items needed for customer-optimised propulsion package.

Scana Zamech is active in the Marine Propulsion business as a designer and provider of Controllable Pitch Propellers, Fixed Pitch Propellers, Tunnel Thrusters, Shaft Line Systems and Rudder Arrangements. The company activities cover a complete customer-oriented process which includes designing, manufacturing, installation and commissioning of products as well as 24/7 after sales service. Products and systems are based on Scana's technology, unique material knowledge and extensive production experience.

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