

TUGS & TOWING NEWS

ENP DELIVERS TWO NEW WORKBOATS

Last week were loaded at Setubal; Portugal on the UAL Capetown the new delivered workboats **Bonsai** and **Rosa Porcelana**. The new workboats were built by ENP under number C-989 and C-900 and classed Rina. The 16,5 m Workboats will perform service at Luanda's Bay / Angola. ENP wishes these to be the first set only, of the same kind, in their involvement with Angola. Although ENP is already working and developing new interesting projects, these were the first of this kind to be fully developed and built by/at ENP



representing once more a demanding challenge which ENP managed to overcome as others before. At their final Sea Trials they demonstrate up to the job, matching all Trials Demands as well as Surveyors expectations. The workboats will be owned by Ghouse, they are Panama registered with call signs HP3471 and HP3349 respectively. They have a length of 16.50 mtrs a beam of 5.50 mtrs and a depth of 2.46 mtrs. The Volvo Penta D16HM delivers an output of 650 hp. The maximum speed is 10.5 knots. *(Photo Alan Smillie & ENP)*

Advertisement

BOGAZICI SHIPPING



high quality

**TUG & OFFSHORE VESSEL
BUILDER**

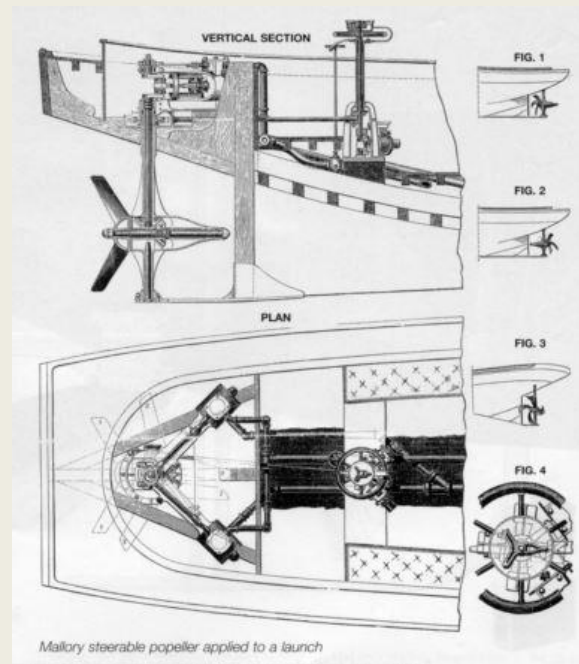
with tailor made solutions



www.bogazicishipping.com

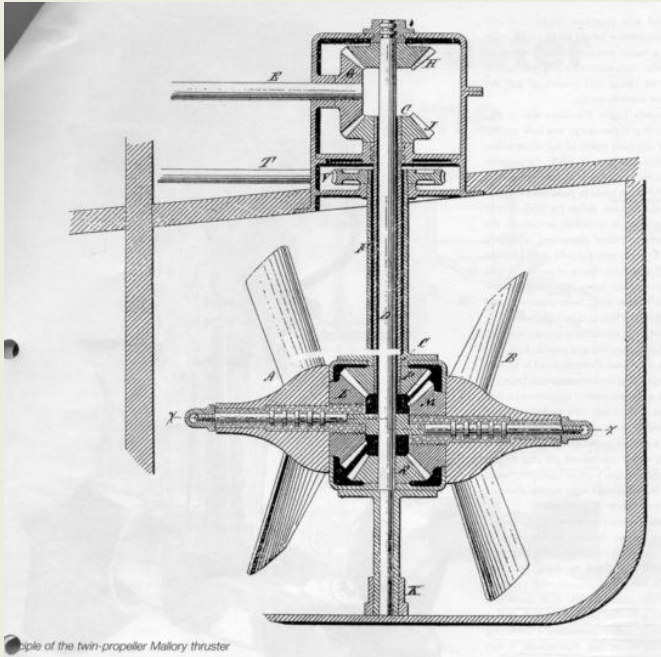
AN AZIMUTH THRUSTER AHEAD OF ITS TIME

Again it shows that readers of the Tugs Towing & Offshore News are very committed and critically with the articles and make a positive contribution to this, as we can read again below as a reaction on the remarks made by Hugh Ware saying that the world's first azimuthing drive and the device saw wide use during the war in the recent issue (Nr. 19). Another below article shows that the Azimuth propeller was designed in 1870's by Colonel WH Mallory already. We tend to view the azimuth thruster as a product of the 20th Century that is still increasing in popularity, - but as with many marine engineering solutions -we have to look further back in history to find its origins, says Richard White. The general principle of today's azimuth thrusters was patented under the heading of 'steering propellers' in the early 1870s: not only patented, but actually made and used in several



applications. Colonel; WH Mallory developed the ideas in the USA and was also able to patent them in Britain, setting up the Mallory Propeller Co in London to exploit the patents. It was an invention promoted for propelling, steering and manoeuvring steam vessels by means of one and the same apparatus, consisting of: *"...a screw propeller of ordinary construction driven through gearing by its own engines and carried by and working in a fish-shaped casing. The case with the screw attached is capable of rotation in a horizontal plane around a vertical axis. ...by the aid of the Mallory propeller a vessel can be moved ahead, astern or sideways or turned in a circle, the diameter of which does not exceed her own length, and otherwise manoeuvred with perfect ease and great rapidity by the helmsman without stopping or reversing the engines."* The 'fish-shaped casing' contained a pair of bevel gears which transmitted the motion from the vertical shaft to the horizontal shaft to which the propeller was attached. Turning the whole unit in azimuth by means of a worm and wheel arrangement vectored the propeller thrust in any desired direction. In 1978 Colonel Mallory brought a demonstration boat over to England from the USA, which was put through its paces in the Victoria Dock in London before an audience of press and interested parties. The 11.3 m-long craft was said to be a copy of the best launch in the US Navy. Its Mallory steerable propeller was placed aft of the stern post in the position normally occupied by the ruder. The vertical stem of the thruster was supported by both an inboard bearing in the hull and a lower pintle attached to the skeg. Worm and wheel steering enabled the whole unit to be swung to the required position. Power was provided by a V-twin steam engine whose crankshaft formed part of the vertical drive shaft of the thruster. The valve gear of the steam engine could be kept simple since no reversing was required and the propeller rotated always in the same direction. Steam was provided through long pipes from a locomotive-type boiler in the bow of the boat. The engineer magazine was impressed by the manoeuvrability of the boat, noting that "the only thing with which the evolutions of Colonel Mallory's craft can be compared are those of a perfectly trained circus horse" and went on "for any purpose where extreme ease of handling is required, the Mallory system is simply perfection; for example, for tug boats or torpedo boats nothing can be imagined more suitable". The Engineer was sceptical about the use of bevel gears in the underwater unit, but "Colonel Mallory, however, states that as these wheels revolve in water admitted to the hollow casing a curious action takes place, the

water preventing direct contact between the faces of the teeth and that in consequence the wear and tear are extremely small.” Not only were the bevel gears water lubricated but the propeller thrust was absorbed by a series of steel rings on the propeller shaft working between a collar on the shaft and the end of the sleeve bearing. These also ran in water. A Mallory propeller was fitted in a 29m-long yacht called Natalie and it was reported that the thruster had run around 4,800 miles without the core marks being worn off the gear teeth. In developing a workable thruster, Mallory had also to tackle some problems which exercise azimuth thruster designers today, particularly the question of steering torque. He addressed it by two means. One was the use of the worm and wheel which provided the mechanical advantage and also locked the steering in the required position. But even on this quite small launch with an estimated 50hp available, an ingenious power steering system was



installed. The worm shaft ran forward from thruster to a bevel gear housed in a steering pedestal. The meshing bevel gear was driven by a little V-twin steam engine. Turning the steering wheel admitted steam to the cylinders of this engine which then, through the bevel gears. Provided most of the muscle to turn the thruster. A geared feedback indicator above the boss of the steering wheel rotated with the thruster to show which direction it was facing at the time. In 1881 Colonel Mallory returned to the question of steering torque and patented an azimuth thruster with twin propellers, designed to balance out the torque reactions and to need less power to turn the thruster in azimuth. Instead of the main engine driving the vertical shaft direct, the input shaft was horizontal and transmitted power to an upper gearbox within the hull in which the input pinion drove two bevel wheels, one above it and one below. These wheels drove bevel pinions in the underwater gearhouse, one through a solid shaft and the other through a tubular shaft concentric with the first, both of which ran down inside the stem. In the underwater house one pinion drove the forward propeller, the other the aft propeller. The axes of the two propellers were slightly offset in

Advertisement

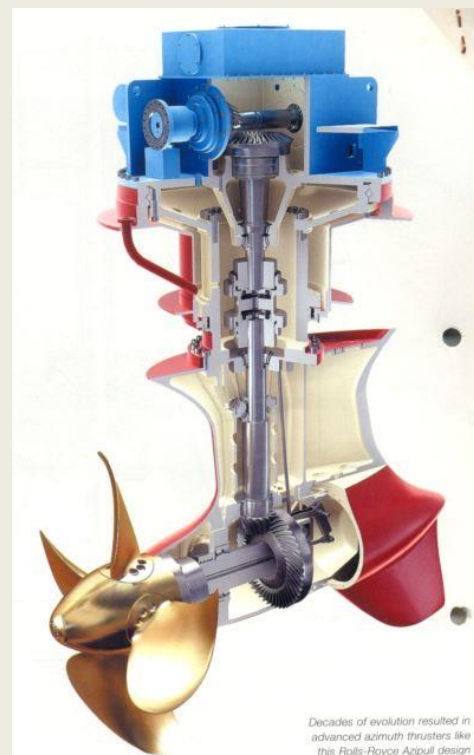


the vertical plane to give the correct mesh and tooth clearances. In this way Mallory proposed to cancel out the gear torques and the propeller walking effect, but it is not clear if this complex arrangement was usable in practice. Perhaps the most interesting use of Colonel Mallory's steering propeller was in the US naval vessel Alarm. The 1870s were a time of very rapid change for world

navies as capital ships were coated with ever thicker armour to keep out the projectiles of ever larger guns. The old sailing navies were giving way to fully powered fleets as marine engineering advanced and the ancient certainties of the broadside armament and line of battle were being questioned. For many naval theorists the ram was the weapon of the future, and battles would be fought by ships wheeling and charging like cavalry, until it was demonstrated, with great loss of life, that in reality the ram-equipped warship was more of a threat to its friends than its foe. At the same time it was recognised that these ponderous vessels could be successfully attacked by small craft with torpedoes. Today's torpedoes were in their infancy and were known as locomotive torpedoes. Attention was focused on so-called spar torpedoes. Given luck and very brave crew, a handy small vessel could approach a major warship closely enough to press a charge of explosive on a long pole against the prey. The charge was pooped off and the torpedo boat made its escape. This sounds highly hazardous but it was established that if the charge was held against the side or sternpost region of the victim below the waterline and armour, while the torpedo boat was a few metres away on the other end of the spar, the victim could be sunk without great hazard to the attacker. Before the perfection of quick firing guns as secondary armament, the slow training and time consuming re-loading procedure of heavy warship guns gave a nimble attack craft a sporting chance of getting in, and out again, without being hit. Consequently, all sorts of torpedo boats were conceived, and designers gave full rein to their imaginations. USS Alarm was classed as a torpedo ram and was designed to function as a torpedo boat, as a ram and as a gun boat. Commissioned in 1874, it was a substantial vessel with an overall length of 52.4m and a displacement of approximately 800 tons. It was built of iron with double sides and bottom divided into watertight compartments. Below the waterline the bow was drawn out into a long ram which also housed the gear for the spar torpedo. The spar with its explosive charge could be run out around eight metres ahead of the ram which was itself armoured.

Electrical connections enabled the charge to be fired at the desired moment from a protected station on the deck. There were two more spars which could be slung out from the vessel's side also equipped with explosive torpedoes. As originally built, USS Alarm was fitted with a Fowler propeller, which was a vertical axis propulsor resembling a feathering paddle wheel set on the end. Functionally, it had some similarities with the well-known Voit-Schneider propeller but lacked the sophisticated linkage and blade design which gives that unit its high efficiency. Although this propeller worked after a fashion and enabled the ship to be manoeuvred by vectored thrust, it was found to be very inefficient. Enter Colonel Mallory. USS was fitted with a Mallory propeller after a few years, probably using the original engine which was suited to vertical axis drive. This change kept the desired manoeuvrability and the vessel seems to have retained Colonel Mallory's thruster to the end of its life. For much of its career the ship was used as a testbed for torpedo research. It was laid up in 1885 and eventually disposed of in 1897. *Alarm's* steam machinery

was said to develop 600 indicated horsepower – quite a challenge to transmit this much through the bevel gears of the time. From the patents and surviving evidence it is clear that Colonel Mallory had set out most of the ingredients for today's azimuth thrusters. But, as with many inventors, he was ahead of his time. Though not proven, it seems likely that it was too expensive a solution for smaller vessels and that most potential customers did not require the manoeuvring powers available. For



Decades of evolution resulted in advanced azimuth thrusters like this Rolls-Royce Aztpull design

larger vessels and corresponding high powers it seems unlikely that available materials and lubrication were adequate. A wooden demonstration model of the Mallory steering propeller is preserved in London's Science Museum. At first sight its shape, and the form of the propeller, suggests it had a pulling propeller. However other drawings indicate that the propeller, though of an unusual skewed form, was positioned aft of the gear house. Not content with geared azimuth thrusters, there is evidence that Mallory also experimented with a podded thruster with an electric motor in the underwater unit. But the technology of the time could not produce a useful amount of power in the available space. *(Source: Marine Propulsion-September/August 2007; Thanks to Henk Hensen for his contribution on this article)*

Advertisement



TOS  **Global Ship Delivery & Crewing Solutions**
Transport & Offshore Services

www.tos.nl

TOS MEETS WINNER MOCE 2013



The Maritime & Offshore Career Event 2013 at the Beurs WTC in Rotterdam was again a great success. TOS was situated at its regular spot: R100 and welcomed a lot of enthusiastic students and young professionals. All candidates who were looking for a (new) job and handed in their resume received a lottery ticket. From all the resumes TOS received we drew lot number 245 from Tom Cromphout. He was the winner of an iPad mini. Our Executive Manager Operations, Marleen Stuurman handed over the price. Tom has just finished his education at the 'Maritiem

Insituut Marcator' in the city of Oostende. He is ready to sail the world for TOS! *(Source: TOS)*

A NEW ERA IN FLEETING

Ship docking tugs now take the Z-drive for granted, but it has found only limited acceptance for river towboats. That is about to change with a new boat being built for The Carline Companies at Raymond and Associates in Bayou LaBatre. One of the Carline companies is the Burnside Fleet located at Mile 169 on the lower Mississippi River between New Orleans and Baton Rouge. When the big tows of up to forty 195 by 35-foot barges come down river, it is the fleeting tug's job to take selected barges off the tow and "park" them in the riverside fleet. A fleet is a string of barges moored

along the river for which smaller towboats provide switching and shifting duties.. Later they will take the barges to nearby docks or ships moored in mid-stream for off-loading. This is a job that requires a power and agility in the towboat that moves these barges around. It is a high demand job in which time and timing are all important. When Carline's new 68 X 34-foot boat, M/V **USS Cairo**, goes to work at the fleet in September 2013 it will herald a new era that will, as did the



early z-drive harbor tugs, create a whole new set of performance standards. Designed by the noted naval architect firm of Townsend Marine Designs in South Portland, Maine there are more than the Z-drives to catch the attention of the industry. The octagonal wheelhouse, with its 360-degree windows, is also reminiscent of a harbor tug. The wheelhouse sits atop a deck cabin with sloped sidewalls to provide optimum visibility to the working deck fore and aft. Unlike other fleet boats, the new vessel will have push knees both fore and aft. On deck there will be two Win-Tech 65-ton winches for face wires and a single Win-Tech Capstan. A Palfinger PK-12000 crane will be mounted foreward on the first deck level. Main propulsion will be provided by a pair of Tier III compliant Cummins QSK19-M engines each delivering 750 HP through Twin Disc HPTO366 gears to the Z-drives. These drives will be Thrustmaster 750 Azimuth Thruster- TH750 MZ. A pair of Cummins QSB-7-powered 150 kW generators will provide auxiliary power. In anticipation of the new Subchapter M regulations for inland towboats, Carline and their design team have worked to approximate the, as yet unconfirmed, guidelines. As with most fleet towboats this will be a "day boat" with a galley but no need for overnight accommodation. Tankage will include 16,000 gallons of fuel, 3,000 gallons of water and 400 gallons of lube oil. "The M/V **USS Cairo**'s z-drive propulsion system is the first of its kind on a dedicated fleet boat working on the Mississippi River," says Lew Parks, CEO of Carline Management Company Inc. in Gonzales, Louisiana, "The increased speed, safety and efficiency were specifically sought out by Carline to meet the service demands anticipated at the Impala's new Continuous Barge Unloading dock. Carline anticipates that the volume demands, coupled with environmental limitations due to river current, will exceed the capabilities of a conventional fleet boat." Rendering courtesy of Carline Management Co. Inc.

(Source: Allan Haig-Brown)

HISTORY OF TUGS: EDDY TUG

One design of tug that is brand new is the EDDY tug. EDDY stands for Efficient Double-ended Dynamic' tugs and features two azimuthing drives, one at each end of the tug. Baldo Dielen Associates Ltd (BDA Ltd) created the design and SMIT has participated in the development and model testing program. Although no EDDY tugs have yet been commissioned the designers claim that the design will offer superior safety, performance and economy. There is a portfolio of several different sizes but it's probable that the standard model will be a general purpose tug 30m long and around 60 Tonne BP. Being double ended it is anticipated that the handling will be entirely intuitive and independent from the direction the tug master is facing. Each end classifies as bow and tank trials indicate that the tug performs well in either direction in all conditions. A central skeg is



designed to provide good directional stability and a substantial increase in line force when operating in the indirect towing mode. The proposed towing arrangement is a double-drum towing winch with two towing fairleads, one for close quarters ship handling and one for (indirect) escort towing. The single deck level accommodation is designed to offer better clearance when working under the flare of large ships. Running “light”, an economical, low wake, 12 knot speed is designed to be achieved using a single drive unit. It can generate push and

pull forces in any direction, with minimum delay. When assisting under speed, high dynamic forces of up to twice the tug’s bollard pull can be generated both by the stern and the bow tug since they are designed to be as effective at the bow as at the stern which is aimed to address the need by tug operators to standardise their fleets without the need to choose between ‘ASD’ or ‘tractor’ type tugs. The above information has been provided by BDA Ltd who inform me that they are optimistic that a firm order will be placed for the first EDDY tug soon. *(Source: The Pilot – Whither Towage: John Clandillon-Baker: <http://www.pilotmag.co.uk/2013/02/24/whither-towage-john-clandillon-baker/>– (To be continued in the next issue)*

Advertisement

Robert Allan Ltd. and Rotor[®]tug: the best of both worlds.



Robert Allan Ltd
www.ral.ca





Your Rotor[®]tug



ROTOR
TUG

www.rotortug.com

SMIT AMANDLA AND SUNDANCE

It's unusual for the same tug to tow the same ship into the same port twice in less than a month, but that was the case today (12 April) when the scrap-bound tanker **Sundance** lost her engines just as she cleared the entrance channel late morning. **Smit Amandla**, which had previously towed the tanker in on 25 March, repeated the exercise on Friday 12 April, reports Trevor Jones. In the picture is seen the salvage tug Smit Amandla and tow. the salvage tug is the former



Durban-built **John Ross** which is now 37 years old and still going strong. *(Photo: Trevor Jones)*

CASCO 1685 ARRIVED FOR DAMEN HARDINXVELD; NETHERLANDS



Last week on April 13th 2013, was seen the arrival of the Polish tugboat **Cyklop** (Imo 6605448) with alongside the Damen Hardinxveld **new building 571685** on the Dutch New Waterway. The Casco will be delivered to the yard for her final outfitting. The 1966 built Cyklop with call sign SQLI is managed by Otto Wulf GmbH & Co – Cuxhaven; Germany. She has a grt of 186 tons and a dwt of 76 tons. *(Photo: Ruud Zegwaard)*

COASTAL POWER TOWS NAVAL SURVEY VESSEL

On Monday 15 April the tug **Coastal Power**, owned by Acta Marine, has towed the hydrographic survey vessel *Hr.Ms. Snellius* A 802 of the Royal Netherlands Navy from Damen Shipyards Den Helder to the naval complex in Den Helder. *(Source: Paul Schaap; Photo: Peter van Boven)*



YARD NUMBER 571686 COMMENCED TRAILS



Last Wednesday April 17th 2013, was seen the Damen Hardinxveld built Shoalbuster 2709 with **yard number 571686** (Imo 9681675), commencing technical trails and bollard pull test at the Heerema Location in the Rotterdam Europoort Caland Canal. The vessel has a length of 27.19 mtrs a beam of 9.10 mtrs a draft of 2.60 mtrs. The total engine output is 2,238 kW. The tug achieved a speed during trails of 11 knots and a bollard pull 38 tons. *(Photo: Jan Oosterboer)*

IZMIR BULL BROUGHT SMITBARGE 2 HOME

Today, April 12, 2013 the Turkish tug **Izmir Bull** arrived from Murmansk with the *Smitbarge 2* in tow. Despite the various squalls the sun came out for a short while at the right time. The **Izmir Bull** is the former **Sirocco** of ITC. Part of the S-Wind class of 7 sisterships. Two have already been scrapped the **Simoon** as the **Panormitis** and the **Suhaili** as the **Resolve Suhaili**. The **Santania** sank as the **VB Antartico**. The remaining other three are: **Shamal** now **VB**



Artico, underway to Las Palmas. The **Solano** now **Karar**, currently in the Persian Gulf. The **Sumatras** now **Rosalind Mary**, currently in Port of Spain, Trinidad. *(Source & Photo; Hans Hoffmann)*

Advertisement




The bright spot in the marine world | www.wkmcornelisse.com | +31 (0)34 55 17 122

ISLAND TUGGER INBOUND VANCOUVER



Last week was seen the 1981 built Canadian registered with call sign CFH8596 tug **Island Tugger** (Imo 9104101) inbound to Vancouver harbour towing its oil barge *ITB Vancouver*. The tug is owned by Atlantic Towing Ltd. – Saint John; Canada and managed by Island Tug & Barge Ltd – Vancouver: Canada. The tug was delivered in 1981 to Canadian Marine Drilling Ltd. – Vancouver; Canada and named **Canmar Tugger**. In

1993 sold to Atlantic Towing (St.John) Ltd. - at Hamilton; Canada and renamed **Atlantic Oak**. In 2000 managed by Island Tug & Barge Ltd - (Red Stack Tugs) – Vancouver and renamed **Island Tugger**. She has a grt of 479 tons and a dwt of 264 tons. She is classed Lloyds Register of Shipping. *(Photo: Robert Etchell)*

FSO PALANCA UNDERWAY ANGOLA

ALP's long distance towing vessel AHT **Eraclea** and Tschudi Offshore & Towage's ITC **Bluster** have departed Singapore with the refurbished FSO **Palanca**. FSO **Palanca** will be returned to Angola where she already previously was stationed for about 20 years. The voyage is expected to take about 55 days. AHT **Eraclea** will be available for next employment upon completion of this tow. *(Source: ALP Marine Services)*



ANOTHER IN LINE OF THE BOSKALIS POLICY



The seagoing fleet of Smit and URS has been transferred to Boskalis Offshore and the tugs are being repainted in dredger colours. Is the Gray colour also in line with the ageing population in the Netherlands. On the picture is seen the latest repainting of the fleet the **Union Fighter** with the Royal Crown on the funnel and the coloured logo with company name on the superstructure. For the old Smit & URS lovers very painful. *(Photo: Hans Hoffmann)*

MULTRASHIP CONFIRMS ORDER FOR TWO NEW DAMEN ASD 2810 TUGS

LEADING towage and salvage specialist Multraship has continued its fleet renewal programme with confirmation that it has bought two new Damen ASD 2810-type tugs with state-of-the-art FiFi 1 firefighting capabilities. The tugs, to be named **Multratug 26** and **Multratug 27**, are building in Romania for delivery in June/July 2013. Contracts for the two tugs were signed during the course of Multraship's annual client gathering in Terneuzen on April 18, where Multraship managing director Leendert Muller said, "We are delighted to have concluded deals for these vessels, built to a proven design by a yard with extensive



experience." The men are standing around a table with drinks and a laptop, looking at the screen. The background shows a brick wall and a banner for Multraship.

experience and expertise in this sector. “The new tugs will be mostly engaged in harbour towage activities in the Zeeland Seaports and Antwerp areas. In addition to their primary duties, they will also be on standby, ready to respond in the event of fire- or explosion-related emergencies in the western and central part of the River Scheldt, as part of a February 2013 commitment entered into with the Zeeland Safety Region to keep two FiFi 1 tugs on standby.” “These new tugs provide confirmation of Multraship’s commitment to investing for both the present and the future. In the towage and salvage sector, if you don’t invest, you risk getting left behind. It is also important to demonstrate to all sectors of the maritime industry that you are prepared to invest money, time and



Multratug)

resources in everything from research & development to fleet renewal in order to provide a valuable towage, emergency response and salvage capability,” said Muller, who currently serves as vice-president of the International Salvage Union. The tugs will have a minimum bollard pull of 62.5 tons and a maximum speed of 13.5 knots. They are being built at Damen Shipyards in Galati, Romania, in which country Multraship has a representative office and provides towage and salvage services as part of its strategic coverage of the Black Sea area. *(Press Release*

Advertisement

STANDARD OF EXCELLENCE

WORLD TUG 1 IN ROTTERDAM



On Thursday 18th April during a morning sand storm the 1970 built Panama registered with call sign HP7306 tug **World Tug 1** (Imo 7000724) was seen entering the Rotterdam New Waterway. The tug is owned by World Towage & Salvage – Urk; Netherlands and managed by Hakvoort Sea Transport BV – Urk; Netherlands. She has a grt of 221 tonnes and a dwt of 175 tonnes. *(Photo: Anton de Krieger)*



MENA C OF RHU LEAVING MALTA



The 2011 built British registered with call sign 2FDG5 utility vessel **Mena C of Rhu** (Imo 9636125) leaving Grand Harbour, Malta on Friday 19th April, 2013 towing the flat top barge Stemat 76 bound to Limassol, Cyprus. The utility vessel is owned by Neptune Equipment B.V. – London with port of registry Greenock. She is managed by Gareloch Support Services – Helensburgh; UK. She is built by Neptune Marine Services BV – Aalst; Netherlands under number 402. The

vessel has a length o.a. of 26.48 mtrs a beam of 11.00 mtrs and a draught of 2.61 mtrs a grt of 149 tons and a nrt of 149 ton. The two main engines develops a total output of 1,940 kW (2,636 hp) and give the vessel a speed of 10 knots. She is classed Bureau Veritas I  Hull  Mach Special service / Multi-purpose ship, unrestricted navigation with nr. 20887F *(Photo: Capt. Lawrence Dalli - www.maltashipphotos.com)*

WHY NOT BUY THIS YACHT FROM ERIC SCHMIDT'S OCEAN RESEARCH INSTITUTE?

For all those ocean-going expeditions. So, how'd you do on your tax refund? Because we've just found the perfect way for you to seastead in style. Behold the **Lone Ranger**, a salvage tug turned marine research vessel turned superyacht. Business Insider reports that the vessel, originally listed at \$20 million, needs major work and so it'll be auctioned at the Antibes Yacht Show on April 20, as-is, for somewhere between €3 million and €10 million. Oh, did we mention it used to belong to the Schmidt Ocean Institute, the marine research



foundation run by none other than gallivanting Google chairman Eric Schmidt? The organization received the ship as a donation in 2009 and has used it for four "research cruises." (Here she is in action.) But now, the institute declares on its website, "the Lone Ranger begins a new chapter in her long and storied history as she is decommissioned from the scientific fleet of the Schmidt Ocean Institute to become a global expedition vessel once again." In other words, it's ready to become your lavish, floating party palace/libertarian offshore paradise. The brochure trumpets: "The yacht epitomises low key luxury, but most importantly offers the ideal platform for anyone wanting to explore the farthest flung corners of the world with their family." There's an on-deck hottub and an indoor swimming pool. Don't worry, though: As far as we can tell, Mr. Schmidt still has his own superyacht, the 195-foot Oasis. *(Source: Betabeat; Photo: Prestige Yacht Auction)*

YOUTUBE FILM OF THE WEEK

TUGBOATS AT PLAY.

An interesting look at tug boats doing a variety of work on the river in assorted weather conditions while being closely watched by the harbour seals. Watch this movie to click [here](#).

ACCIDENTS – SALVAGE NEWS

DUC DIVING UNRAVELS THE CHAIN



Urk, Holland – During a salvage operation offshore the Dutch Coast near Scheveningen, DUC Diving (Dutch Underwater Contractors) was asked to respond immediate to assist the British flagged tanker “*British Eagle*” who was anchored offshore Rotterdam. Her port-side anchor was entagled and a nice big knot was in her anchor chain. DUC Diving quickly dispatched the dive support vessel “*Ram*” to the tanker. With her big deck and two hydraulic cranes she is the perfect tool for the job. Despite

the swell and the fog the crew managed to manoeuvre the “*Ram*” safely under the bow of the tanker and the 11 ton anchor was taken on her deck. After four hours of hard work the crew unraveled the chain and the anchor was ready for use. (*Press Release Duc Diving*)

Advertisement

	<p>Office: Orhangazi Cad. Manolya Sokak, No: 12, 34865 Dragos / Kartal, Istanbul Tel: +90 (216) 458 5900 Fax: +90 (216) 458 5959</p> <p>Shipyard: Aydıntepe Mahallesi, Billur Sokak, Tersaneler Bölgesi 2. Kısım Tuzla-Istanbul Tel: +90 (216) 507 2000 Fax: +90 (216) 507 2222 E-mail: info@sanmar.com.tr</p>	
<p>BUILDING FOR THE FUTURE</p>		

SALVAGE COSTA CONCORDIA STARTED

After months of preparations salvage workers has started last Wednesday to parbuckling the *Costa Concordia* at the Italian island of Giglio. On this the first of total 30 air/ballast tanks are connected to the sides of the capsized cruise ship. At the topside of the ship the 15 air/ballast tanks, which have an empty weight of 395 tons each, will filled with water. Due to the weight of the full tanks, supported by the pulling power put on steel ropes, the vessel should be parbuckled. On the other

side of the ship that is still under water, will be fitted 15 air bags. If the ship is raised again, the water will be pumped out of the 15 full air/ballast tanks, according to the Italian news agency ANSA. The lifting power of the air filled tanks allow to tow the **Costa Concordia** away from the coast of the island. Where it lay since January 31, 2012. The American salvage company Titan takes care of the salvage operation of the Costa Concordia and is working together with the Italian company Micoperi. The cost of the salvage operation is estimated by Titan around the 236 million euros.



(Photo: The Parbuckling Project)

GROUNDING ON THE WESER



The "**Norfolk Express**" ran aground in the Weser estuary around nine nautical miles NE of Jade Weser Port, between Wremen and Dorum, in the forenoon of Apr 18, 2013, at 9.30 a.m. after having got out of the fairway by yet unknown reasons at a speed of about 19 kn. The ship was aground with a third of its length and was stuck on a dam. No injuries of the crew of 29 and no pollution reported. The emergency tug "**Nordic**"

proceeded at noon from Cuxhaven with 18 kn, also the tugs "**Bugsier 6**", "**Elbe**", "**Geeste**" and "**Ems**" attended, as well as the "**Nordergründe**" of the Weser shipping authority, the anti-pollution vessel "**Neuwerk**" which left Wilhelmshaven around 10.45 a.m. and the police boat "**Visura**". The casualty command in Cuxhaven had the command of the salvage Operation since 10.45 a.m. The ship had left the Strom Quay in Bremerhaven at around 8.40 a.m. and was bound for Le Havre. (Photo: <http://www.havariekommando.de>) - *Norfolk Express salvaged by four tugs* On Apr 18 at 4.45 p.m. the "Norfolk Express" was refloated with the rising tide, about two hours before the flood, in the first attempt. The tugs "**Ems**", "**Elbe**", "**Geeste**" and "**Bugsier 6**" pulled the ship off which was then being towed to Bremerhaven for surveys. The ship has suffered bow damage in the grounding, also the dam was damaged by the impact. The anti-pollution vessel "**Neuwerk**" escorted the convoy back to port. The ship was safely docked back at the Strom Quay in Bremerhaven at 7.30 p.m., and the tugs were released. *Police investigates Weser grounding* Police investigators entered the "**Norfolk Express**" on Apr 18 after it was docked back at the Strom Quay in Bremerhaven to interrogate the

crew and the pilots of the ship in order to find out whether human error or technical failure caused the seven-hour-grounding on the Weser. The ship has suffered significant bow damage when running onto the stone dam at the edge of the fairway head-on, and will probably repaired on a yard in Bremerhaven. Actually the ship remains docked at the Strom Quay. *(Source: Vesseltracker)*

Advertisement



TUG BOAT CRASHED INTO PALACE BRIDGE PILLAR IN ST. PETERSBURG AND SANK, 2 PEOPLE LOST

Tug boat **RBT-300** (owned by Atachi LLC) crashed into the Palace Bridge pillar in St. Petersburg. The accident happened at night. According to the press center of the RF Emergency Ministry's municipal branch, the capsized vessel then floated about 200 meters and sank. Two persons were reportedly on board the vessel. Rescuers on board the air-cushion vessels are searching for lost people in the water area of the Neva. Emergency response center is set up in St. Petersburg to coordinate rescue activities. *Tug boat sinking*



in St. Petersburg ranked as accident during construction works – Gosmorrechnadzor Tug boat **RBT-300** (owned by Atachi LLC) which sunk at the Neva river (St. Petersburg) at night on April 19, 2013 during the technological (construction) operations ordered by Pilon CJSC is not ranked as transport accident as the navigation of 2013 has not been announced at the Neva yet, IAA PortNews learnt from the North West branch of the State supervisory department for sea and river transport (Gosmorrechnadzor). Construction works arranged by the city in the water area of the Neva beyond the navigation period are not regulated by the transport legislation. The Neva is the federal transport route only when it is open to navigation. According to Gosmorrechnadzor, the tug boat did not crash into the bridge pillar, it was pressed against the left-bank span of the Palace Bridge with strong current and then capsized. The overkeeled vessel floated for 220 meters and sank 75 meters from the bank at the depth of 12 meters. As it was reported earlier, no information is available about the crew of two persons so far. Emergency Ministry personnel are searching for people. The sunken tug boat will be lifted by Pilon CJSC. Pilon CJSC is a contractor of the Palace Bridge repair works in St. Petersburg. The company earlier said it would be impossible to complete repairs by first open water scheduled for late April. The first bridge raising is expected to be held after May 20, 2013. *(Source: PortNews)*

SEARCH UNDERWAY FOR SIX PEOPLE MISSING AFTER BARGES COLLIDE SOUTH OF HONG KONG



A search is underway for six people missing after two mainland Chinese barges, carrying construction waste and sand, collided in thick fog near Hong Kong's Stanley district in the evening of April 18. The barges collided south of Bluff Head near Lo Chau Island at about 7.50pm. The impact threw 11 crew members into the sea from one barge, which sank soon after the accident, government

radio reported. Five with unknown injuries were rescued by first responders. Divers searched the scene overnight for the missing. "The rescuers have searched for them overnight but we are still looking for the six missing," a spokeswoman from the marine department told AFP. *(Source: gCaptain; Photo: Apple Daily)*

ARRIVAL OF TUGBOAT TO TOW CHINESE SHIP FROM TUBBATAHA DELAYED

A tugboat sent to tow the Chinese fishing vessel that ran aground on Tubbataha Reef last April 8 has been delayed, raising concerns the damage caused by the grounded ship may grow worse. The tugboat that was supposed to arrive Wednesday left Subic only on Tuesday night, radio dzBB's Carlo Mateo reported Wednesday. Coast Guard Palawan commander Commodore Enrico Evangelista cited reports reaching him indicating the tugboat may arrive at the north atoll by Thursday night. With the delay, the dzBB report said Coast Guard and the Tubbataha Management Office voiced fears the damaged area may grow over time. The fishing vessel with 12 Chinese on board ran aground at Tubbataha Reef April 8, days after the USS [Guardian](#) that got stuck on the reef on Jan. 17, was removed from the area. An initial inspection showed the Chinese fishing vessel, while smaller than the USS [Guardian](#), may have caused as much damage as the US Navy's minesweeper. Members of the Automated Rapid Reef Assessment Team claimed this was due to the big waves that caused the Chinese vessel's position to shift, and the coral area being crushed by the grinding motion of the hull is becoming bigger and bigger. "The rope anchoring the ship broke and the ship drifted because of the large waves, and strong current," Maricar Soriano of the team said last weekend. The group estimated the damage caused by the Chinese vessel at 2,300 square meters, or about five basketball courts. (Source: LBG, GMA News) [Chinese fishing vessel pulled-out from Tubbataha](#) Chinese fishing vessel F/V [Min Long Yu](#) on Friday afternoon was successfully towed and removed from its grounding site near the northern isle of Tubbataha Reef. Philippine Coast Guard (PCG) commandant Rear Admiral Rodolfo Isorena said that around 2:20 p.m. the vessel that ran aground last week was satisfactorily extracted from its grounding position by Malayan Towage tugboat M/T [Limay](#). Rear Admiral Isorena said PCG divers will conduct underwater hull inspection for any damages prior to the fishing vessel's towing from the UNESCO World Heritage site. Once the F/V [Min Long Yu](#) is cleared, it will be immediately towed to Puerto Princesa City where detailed vessel inspection will be conducted particularly on the discovered frozen anteaters beneath

the cargo hold section. Rear Admiral Isorena said that all pieces of evidence which will be gathered and collected by the investigation team will be turned over to the Philippine Council for Illegal Entrants who is in-charge of filing charges against the 12 crew member of the said foreign vessels. *(Source: Philippine Coast Guard)*

OFFSHORE NEWS

Advertisement

M3 Marine are Asia's largest truly independent offshore shipbroking & marine consultancy groups
We 'LIVE' our Business!

SERVICES

M3 MARINE EXPERTISE

- FMEA / FMECA (DP Vessels, Diving Systems, Cranes)
- Vessel Newbuildings / Maintenance / Conversion
- Audits / Inspections (OVID / CMID, D023 / D024 etc.)
- Vessel Valuations
- Market Study
- Commercial & Corporate Due Diligence
- Expert Witness
- Marine Executive Placement



M3 MARINE OFFSHORE BROKERS

- Chartering (Time / Bareboat)
- Sale & Purchase
- Newbuildings

Offshore Brokerage ✉ mail@m3marine.com.sg
Offshore Expertise ✉ expert@m3marine.com.sg
www.m3marine.com.sg

FIRST BOURBON LIBERTY PSV SAILS TO AL SHAHEEN



Bourbon Offshore's first new Bourbon Liberty 150 series platform supply vessel (PSV) will operate for Maersk Oil on the Al Shaheen field offshore Qatar. This is the first of 15 ships that Bourbon has ordered in this new range of DP-2, diesel electric propulsion vessels, which it says is well suited to support drilling operations. Features include a

larger deck space of up to 400 sq m (4,305 sq ft), and a larger cargo capacity for liquid mud and bulk. Aside from this latest vessel, Bourbon has in operation 54 Bourbon Liberty 200 anchor-handling tug supply (AHTS) vessels, 22 Bourbon Liberty 100 PSVs, and eight Bourbon Liberty 300 AHTSs, with more on order. Characteristics of the Liberty series designs include maneuverability and station keeping via five thrusters and DP-2 dynamic positioning; improved reliability due to equipment redundancy (multiple thrusters and three main generators); up to 30% more cargo capacity than conventional vessels; suitability for deepwater and shallow-water operations; and low fuel consumption due to diesel-electric propulsion. In a separate development, Bourbon has decided to sell vessels from its fleet worth a total of \$2.5 billion, but retain them on bareboat charter for 10 years. Earlier this month, the company signed terms with Chinese company ICBC Financial Leasing for up to 24 supply vessels in operation and 27 under construction, with delivery scheduled within 14 months, under a deal valued at up to \$1.5 billion. Based on market price estimates, Bourbon would realize a capital gain of about 12% of the total value of the vessel sale. On completion of this operation, and following delivery of the final vessel in mid-2014, the company would operate 230

supply vessels (PSV, AHTS, IMR), including 54 under bareboat charter. At the end of 2012, the company operated a fleet of 458 vessels, including supply vessels and crewboats. *(Source: Offshore Magazine; Photo: Bourbon)*

THE NAMING CEREMONY FOR FIRST PX105 PSV SINOPACIFIC BUILT FOR DEEP SEA SUPPLY HELD IN ABERDEEN UK

Delivering 1 high-tech PSV only 22-month after shipbuilding contract signed On April 16 in Aberdeen UK, a seaport city on the North Sea, SINOPACIFIC & Deep Sea Supply together held a grand naming ceremony and gala dinner for the first PX105 platform supply vessel (PSV) among 12 ones contracted between the above shipbuilder & ship owner. Madame Dana House named this vessel as “**Sea Falcon**”. With Champagne drawing elegant arc lines onto the broadside



accompanied with fireworks blooming and whistle blowing, atmosphere at ceremony site reached its climax. About 80 delegates from offshore oil and gas manufacturers, OSV ship-owners, operators and designers, marine equipment suppliers, classification society, news media, legal and financial services institutions witnessed this wonderful moment. The high-tech PSV PX105 built by SINOPACIFIC, is one of the most complicated PSVs in the world. Designed by Ulstein Design & Solutions, PX105 is 88.8m in length overall, 82.0m in length between perpendiculars, 19.0m in breadth, 8.0m in depth moulded, 4543T in maximum deadweight and 15.7 knots in service speed (at 5.0m draft). PX105's hull line adopts X-BOW design which Ulstein takes pride in to minimize violent impact from rough sea and ensure safety and stability for the vessel in adverse marine environment. Meanwhile, it is quite outstanding from environmental protection consideration: Generator exhaust emission meets European Automobile Emission Standard and the entire vessel meets Class 3 standard in noise, vibration, temperature, humidity and comfort; fully prepared upon hardware and software for the functional upgrading demands on floating oil recovery and fire control. It is amazing that only 22-month after signing the contract, SINOPACIFIC delivered such a high-tech PSV to Deep Sea Supply. This marked another important milestone in SINOPACIFIC's history of building high value-added OSV. “We cannot make this successful delivery without the close coordination from the ship-owner.” SINOPACIFIC Co-CEO Qiang Jiang indicated that he highly appreciated the practical attitude of Deep Sea Supply. He added: “In order to achieve flawless implementation of the system design, sufficient communication between us has started from the engineering stage; in addition, all key modification items were confirmed before the building started. And by doing so, it not only facilitated the manufacturing process, but also benefited an effective control on cost, quality and progress.” As a prestigious investor in the international shipping industry, Deep Sea Supply has kept leveraging its strategic thinking from the perspective of an investor and managed to achieve dynamic balance between market supply and demand. The “**Sea Falcon**” PSV is the first vessel among 12 vessels that Deep Sea Supply has purchased from SINOPACIFIC. *(Source: Shipbuilding & Energy; Photo: Deep Sea Supply)*

Advertisement



VROON OFFSHORE SERVICES SECURE LONG-TERM CONTRACT WITH BP



We are pleased to announce that Vroon Offshore Services have secured a long-term contract with BP for the provision of platform-supply and emergency response and rescue services on the UK continental shelf. These services will be undertaken by A- and B-Class field-support vessels and a platform-supply vessel. In due course one of the field-support vessels will be replaced by a newbuilding vessel currently under construction for Vroon in China (see artist's impression). Mark Hardie, BP's UK Logistics Infrastructure Manager, said, "This award is the latest

example of BP executing its long-term marine strategy to support its UK offshore operations. BP has enjoyed a long and successful working relationship with Vroon Offshore Services which has provided us with the confidence to extend the service they provide to our business." The award of this contract strengthens the already successful partnership between Vroon and BP. It is an endorsement of Vroon's mission to provide a flexible, fully integrated shipping service that meets all clients' HSSE and operational requirements. Vroon is committed to further developing the partnership with BP in the future and wishes all those involved safe operations. *(Source: Vroon)*

HNoMS VALKYRIEN IN A WET AND WINDY MORNING

Originally built as the **Far Senior** in 1981 the Norwegian Navy purchased her for service in 1984. HNoMS **Valkyrien** is now classed as a Logistic support ship and rescue tug and the picture shows her heading down the Clyde passing Greenock today on a very wet and windy morning outbound to take part in "*Exercise Joint Warrior 13*". *(Photo: Tommy Bryceland)*



VIKING SUPPLY SHIPS LTD ENTERING INTO A CONTRACT WITH BP UK FOR TWO PLATFORM SUPPLY VESSELS



Viking Supply Ships Ltd entering into a contract with BP UK for two Platform Supply Vessels: **Idun Viking** and **SBS Tempest**. **Idun Viking** is fixed firm until July 31, 2013 plus options with commencement the end of March 2013. **SBS Tempest** is fixed firm until January 31, 2014 plus options with commencement in direct continuation of its present charter. The contract terms are in accordance with

present market conditions. These recent contracts further add to the company's backlog, which now accounts for NOK 1.693 M, an increase of NOK 523 M or 45 % since 1st of January 2013. With these recent contracts the fleet has an estimated contract coverage including charterer options of 44 % for the remainder of 2013 and 30 % for 2014. *(Press Release Viking Supply Ships; Photo: Marine Traffic)*

AQUARIUS-G ON TRAILS

On the 12th April the Damen new building Seismic Support Vessel **Aquarius-G** from Groen Offshore Guard & Support was seen returning her trails. The vessel is under construction, fitting out at the Damen Shipyard Stellendam: Netherlands. She is the second in a series of two. (**Astra-G**) Her length is 40.00 mtrs the beam 9.30 mtrs and the draft 3.30 mtrs. The two Caterpillar C32 Acert main engines develops a total output of 1940 kW. *(Photo: Wim Kosten-maritimephoto.com)*



ANOTHER ON TRAILS



On the 16th April was seen, the ASL Yard; Singapore newbuilding Danish registered with call sign OWKX2 Safety Standby Vessel **Esvagt Celina** (Imo 9641649) commencing technical sea trails. The vessel is owned and managed by Esvagt A/S – Esbjerg; Denmark. She has a grt of 963 tonnes and a dwt of 647 tonnes. *(Photo: Jacco van Nieuwenhuyzen)*

WINDFARM NEWS

GARDLINE AWARDED CONTRACT TO SUPPLY CREW TRANSFER VESSELS FOR CENTRICA ON THE LYNN AND INNER DROWSING WIND FARM



Gardline, one of the leading vessel service providers for the offshore renewables sector, has been awarded a four boat charter working for the Lynn and Inner Dowsing Wind Farms, owned by Centrica and EIG Global Energy Partners. Gardline Environmental's Coastal Services Division will be supplying 4 x 20metre Crew transfer vessels

(CTVs) for the contract. Centrica is one of the leading offshore wind farm developers in the world and Gardline, with its fleet of specialist turbine transfer vessels has been contracted to transfer personnel and equipment, out into the field. The port of operation will be Grimsby dock which has just had a major investment to the dock gates to allow access for larger and more capable vessels to operate in the area. The larger CTVs will save time on transiting, to and from site, thus enabling a longer working period out in the field. Gardline currently owns and operates 12 CTVs with three more in production, and all being in service over the next few months. The Coastal Services division of Gardline Environmental Ltd is one of the offshore Renewables industry's leading suppliers of support vessels for wind turbine and offshore installation as well as providing specialist crew training, management and operations. Michael Martins Head of Coastal services. "We are very pleased to be working with Centrica in the development of their offshore wind capability This is another milestone contract award for Coastal Services in-line with our development strategy of being CTV vessel supplier of first choice to the growing offshore renewable market" (*Press Release Gardline*)

Advertisement



Any ship or destination... We deliver

We master every aspect of ship delivery, crew management and maritime recruitment.

Follow us!   



Redwise
GLOBAL SHIP DELIVERY & CREWING

www.redwise.com

info@redwise.nl

YARD NEWS

AKER ARCTIC TO DESIGN NEW ICEBREAKER FOR THE FINNISH GOVERNMENT

Today the Finnish Transport Agency signed a contract with Aker Arctic Technology Oy for the design of the new icebreaker for the Finnish Government. Aker Arctic in cooperation with ILS Oy will design the vessel and prepare the technical documents needed to arrange the tender for its construction in compliance, take responsibility over the performance of the vessel, and will assist the Transport Agency in



negotiations with shipyards later this autumn. The Government has already taken earlier a decision in principle to procure a new icebreaker; and 125 million euro has been earmarked for its construction by winter 2016. The icebreaking capacity of the new icebreaker in all parameters will comply with the **Urho-class** icebreaker. Due to its diesel-electric machinery, it will be able to move continuously through about 1.6 m thick level ice, to break a 25 meter wide channel in 1.2 meter thick ice at speed of 6 knots, as well as to reach 9...11 knots of average assistance speed in the Baltic Sea. The draught of the vessel with full fuel tanks will be maximum 8 m, which enables operation and assistance to merchant vessels on all major sea lanes. The service speed of the vessel in open water should be minimum 16 knots. In addition, the new icebreaker will be equipped for oil spill response operations and will perform emergency towing missions 95% of the time in the open water and ice conditions prevailing in the Baltic Sea. The vessel will be able to collect spill oil at significant wave height up to at least 2 meters, and 95% of the time in the wind conditions prevailing in the Baltic Sea. The recovered oil tanks and heating capacities for recovered oil should be sufficient for at least 1500 m³ of collected volumes. The vessel will be designed for 50 years of service life, and the icebreaker will have accommodation in total for 24 persons, with reserve for additional crew in case of oil spill response operations. The ordered design materials should be completed so as to make it possible to complete the tender for construction of the icebreaker by end of 2013. "The Finnish foreign trade is fully dependent on an efficient winter navigation. Our oldest icebreaker **Voima** is already sixty years old, and it is important that after a fifteen-year long gap we are able to renew our icebreaker fleet. Due to the new technology, our goal is to improve the level of icebreaker services and to ensure the competitiveness of our exports", says Antti Vehviläinen, Director General, Finnish Transport Agency. "It is amazing that the future flagship of our icebreaking fleet is possible to be designed by the most experienced engineering companies of the country, Aker Arctic and ILS, which guarantees the result of high quality of the project", says Jarkko Toivola, Winter Navigation Unit Manager. "This new design of the Finnish icebreaker will give us a significant reference for the growing international Arctic markets and thanks to it we can show that the Finnish icebreaking technology continues having the top ranks in the world. During next summer we can assure in advance the performance capacity of the new icebreaker by means of ice model tests", says Mikko

Niini, Managing Director of Aker Arctic. "It is important for this kind of national project that all competencies and experience can work towards a joint goal. Our emerging cooperation with Aker Arctic is inevitable to preserve the status of Finnish know-how in a growing international competition" says Jyrki Lehtonen, Managing Director of ILS Oy. *(Press Release Aker Arctic)*

Advertisement

ALPHATRON
Alphatron Marine

For more information: www.alphatronmarine.com



ALPHAFIBER COURSE GYRO COMPASS ALPHACONNECT TELEPHONE EXCHANGE ALPHABRIDGE ALPHAMINICOURSE GYRO COMPASS ALPHABRIDGE TUGBOAT VERSION

View the youtube film of the Alphabridge for tugboats on <http://www.youtube.com/watch?v=hQj6hFDcHW4&feature=plcp>

THE ARCTIC OBLIQUE OIL SPILL RECOVERY ICEBREAKER



With the awarding of drilling permits in the Arctic subject to increasing scrutiny, Aker Arctic Technology is introducing the 'Heavy Duty' Oblique Icebreaker Project for Arctic Application (**Aker ARC 100 HD**). The **ARC 100 HD** is a new advance on what is already recognised as a true design innovation to allow ice-going vessel operations in the harshest of environments. It is distinguished by its inclusion of new technical solutions covering oil spill response. Formal

launch coincides with the start of hull assembly work on the first vessel to be built to the **ARC 100** concept for delivery to the Russian Ministry of Transport by early 2014. Those attending this event will gain an overview of the project's objectives and the research behind it, an update on construction work at Kaliningrad's OJSC Yantar and Helsinki's Archtech yards, and insight into the concept's unique manoeuvring, ice management and oil recovery capabilities. *(Source: Aker Arctic)*

WEBSITE NEWS

[HTTP://WWW.TOWINGLINE.COM](http://www.towingline.com)

ARE YOU ALSO INTERESTED IN THIS FREE TUGS TOWING & OFFSHORE NEWSLETTER. PLEASE VISIT THE WEBSITE [WWW.TOWINGLINE.COM](http://www.towingline.com) AND SUBSCRIBE YOURSELF FOR FREE

Last week there have been new updates posted:

1. Several updates on the News page posted last week:

- [Royal Bahamas Defence Force contracts Damen](#)
- [Multraship confirms order for two new Damen ASD 2810 tugs](#)
- [KOTUG levert maatschappelijke en sportieve bijdrage](#)

[mailto: jvds@towingline.com](mailto:jvds@towingline.com)

This site is intended to be collective exchange of information. Information on this site has been pulled from many sources; we have attempted to credit these sources. But due to the multitude of sources sometimes we are unable to note all the sources. If you feel that material that is posted here is of your authorship and you have not been credited properly please alert us and I will correct the credit or remove it in accordance to the author's wishes.

DISCLAIMER

The compiler of the Tugs Towing & Offshore Newsletter disclaim all liability for any loss, damage or expense however caused, arising from the sending, receipt, or use of this e-mail communication and on any reliance placed upon the information provided through this free service and does not guarantee the completeness or accuracy of the information. For more information about advertising, subscription, preferences and un-subscription visit the website: <http://www.towingline.com> The Tugs Towing & Offshore Newsletter is a ::JVDS-MARCOL:: Archive Production.
