Maersk agrees 200-vessel FleetBroadband deal

Maersk is to extend its landmark 2008 deal to install FleetBroadband on its ships under an agreement to introduce the satellite communications system onboard an additional 200 vessels - the largest satcoms retrofit deal in maritime history.

Shipping giant AP Moller-Maersk is to extend its usage of the Inmarsat FleetBroadband system following the agreement of a mammoth deal that will see the systems installed aboard an additional 200 vessels across its fleet.

This extension of its current agreement with Marlink, already providing airtime services under a contract agreed in 2008, will increase the total number of AP Moller-Maersk vessels sailing with FleetBroadband to 370.

Marlink’s parent company Vizada will also be offering additional value-added services from its Vizada Solutions range under the deal, such as web compression and filtering.

“The cost effective and reliable communications provided by Marlink and its partners, Vizada and Inmarsat, will enable Maersk Line to deliver significant operational efficiencies resulting in fuel savings and emission reductions that will help Maersk Line reach our ambitious environmental targets,” said Niels Bruus, director, energy efficiency, Maersk Line.

“Further, it has been of utmost importance to Maersk Line that the solution has focus on crew welfare by offering facilities for our crews to stay in touch with family and friends 24/7. Our latest agreement with Marlink will enable us to offer these services to crew onboard our fleet.”

Marlink and Inmarsat have also been keen to express their delight at securing such a huge contract, with 200 vessels representing the largest number of ships ever to be signed to a retrofit satellite communications deal.

“Our renewed agreement with AP Moller-Maersk is testament to our strong understanding of the company's communications requirements,” said Tore Morten Olsen, CEO, Marlink.

“Marlink prides itself on being able to provide customers like AP Moller-Maersk with exceptional support, globally, 24/7, guaranteeing AP Moller-Maersk access to the high-speed communications required by today’s modern vessels.”

“The number of Maersk vessels carrying FleetBroadband is set to increase to 370.

“Keeping an open channel of communication with family and friends is a priority for Maersk Line,” says Mr Bruus.

“The systems also enable Maersk Line to monitor, track, and manage our vessels around the world using satellite technology from any location. This capability is crucial to our business, as we strive to meet customers' demands efficiently and effectively.”

The number of Maersk vessels carrying FleetBroadband is set to increase to 370 continued on page 2
Digital Ship celebrates 10 years – October 2000 to October 2010

When Digital Ship was launched, with our very first issue in October 2000, ‘Dot Com’ was the byword for the future of shipping technology. As the internet was predicted by many to change the way that businesses in every industry operated, maritime entrepreneurs and established organisations alike looked to take advantage of the perceived opportunities in the digital world’s wild west.

Indeed, the front page story of that very first issue carried the headline ‘Baltic goes Virtual’, with details of the Baltic Exchange’s decision to create a Virtual Exchange ‘as an alternative to the independent dot.coms offering chartering services over the internet’.

Further examination of the pages of this first edition of Digital Ship reveals the extent of the expectation at that time as to how e-procurement was set to create a host of maritime millionaires.

Names such as OneSea, PrimeSupplier and Setfair may be familiar to shipping veterans, but these e-commerce companies were unable to turn their dot com dreams into revenues.

Like many in the wider economy, a large number of the online companies that sprang up during the internet revolution found their businesses to be unsustainable behind the curtain of hype created by the boom.

OneSea and PrimeSupplier merged to become Seabsupplier, acting as an e-procurement subsidiary of Stolt-Nielsen.

The Setfair.com purchasing site established in October 2000 was proud to have been a part of the Digital Ship world in October 2010.

The dominance of Inmarsat services at the time was further underlined by a news story confirming the decommissioning of the last of the satellites operated by the first incarnation of Iridium, which had entered Chapter 11 bankruptcy in 1999.

At that time, in the days before digital satellite communications news formed a platform for 2009.

While the definition of ‘broadband’ in the maritime market may still prove elusive, and be constantly changing depending on who you are talking to, the need for IP onboard is well established.

The application of this technology to optimise operations is now the major challenge for the maritime industry, as it soon will be for Maersk’s 370 vessels.
GE launches new satcom service

GE-Satcom has launched a new maritime satellite communications service, offering Ku-band VSAT connectivity supported by an L-band back-up terminal.

GE says that the project to develop the new Satlynx Maritime service was conducted in close collaboration with a Hamburg-based German fleet operator, which offered insight into the particular needs of commercial shipping when designing the system.

A six month pilot was first carried out on board a large container vessel operating between ports in Asia, Africa and Europe, and following successful acceptance the service has now been scheduled for commercial roll out to 14 additional ships.

The system being provided includes voice, internet access and a range of TV content including daily news, sports reports and magazine shows that can be multiplexed into any cabin, technical or recreation room.

Satlynx Maritime is offered with a flat rate, and operates on the iDirect Evolution platform. Ku-band is used for the primary link, but the service can automatically switch to an L-band link via Inmarsat or Iridium, as a back-up.

Captain G Falk Bethke, chief superintendent with GE-Satcom shipping customer Peter Dohle Schifffahrts-KG, commented: "[This] retrofit solution provides a scalable platform on which cutting-edge fleet management applications can be built, such as location tracking, eco-routing, and performance monitoring to reduce operational costs - for both new builds and existing ships alike."

"The maritime sector is extremely competitive and it’s vital to have the best crew for our fleet. The better we’re able to look after our crew, the easier it is to attract and retain the top people. What GE-Satcom has done is bring affordability to first-class crew welfare services."

Dates for your diary:
Digital Ship events 2011 - see page 36

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Beluga and Hellespont agree VSAT contracts

MTN is to provide VSAT services to shipping companies Beluga Shipping and Hellespont, following the agreement of two separate deals with the German vessel operators.

Project- and heavy-lift carrier Beluga Shipping is to install a broadband VSAT system onboard the newbuild MV Beluga Shanghai.

Beluga Shanghai is one of Beluga’s new P-class series of super-heavy-lift vessels, which offer crane capacities between 800 and 1,400 tons and loading capacities of up to 20,000 deadweight tons.

The shipboard VSAT will use MTN’s Ku-band solution, backed up by an Inmarsat FleetBroadband terminal, which will be used as a secondary satellite connection.

The system will include automatic switchover functionality to move to the FleetBroadband when out of Ku-band coverage. The MTN software supplied under the deal will also include least-cost routing analysis to select the optimum communications pathway.

Additionally, Beluga is installing a fixed MTN VSAT solution in Bremen, Germany, which will be used for system integration and vessel simulation.

Beluga’s initial ship plan calls for a 128 kbps guaranteed committed information rate (CIR), with the ability to burst to higher rates as needed.

The company plans to leverage the broadband ship-to-shore connections to integrate the vessel’s ICT systems and processes into its worldwide enterprise ICT infrastructure and network.

For instance, the ship’s voice-over-IP (VoIP) switching system will be connected via MTN to the central PBX at Beluga’s headquarters, so that Beluga can manage the entire fleet from the central unit as a large worldwide network.

“We selected MTN to be our VSAT provider for the new multipurpose, heavy-lift project carrier of the F-series after a careful analysis of alternative solutions,” said Niels Stolberg, president and CEO of Beluga Shipping.

“MTN offered excellent Ku-band coverage with a guarantee of uncontented bandwidth and built-in ability to upgrade to additional bandwidth as needed. MTN has excellent references in integrating high-bandwidth satellite connectivity with shipboard and shore-side IT systems.”

After evaluating the first ship installation, Beluga may consider installing the MTN VSAT solution aboard additional vessels, according to Mr Stolberg.

Under the other deal with Hellespont Ship Management, MTN and partner Maritime Broadband have been selected to provide communication services to the MT Hellespont Progress product tanker, under a 36-month agreement with the German-based vessel operator.

“On the MT Hellespont Progress, we have agreed to proceed with a 3-year contract for MTN global C-Band services, utilising Maritime Broadband’s C-Bird (antenna),” said Matthias Edler, IT manager, Hellespont Ship Management.

“We have found MTN’s worldwide coverage to be consistent and C-Bird to be economical and reliable. In addition, we are providing internet and telephone services to our vessels on a regular and affordable basis.”

The Hellespont Progress vessel was outfitted with Maritime Broadband’s C-Bird antenna system in December 2009, with service delivered via MTN’s VSAT network. MT Hellespont Progress is a 228.6-metre product vessel built in 2006, trading worldwide.

“My crew are really enjoying the C-Bird and MTN’s VSAT services. After a hard day’s work, family and friends are just a snap of the finger away,” said Captain Ama of the Hellespont Progress.

The vessel has been fitted with four phone lines for crew calling, as well as e-mail and internet access. In addition, the VSAT network will also be used for all shore-side connections, including remote management communications.

Ship Equp now has several Frontline ships with the new VSAT solution, since the deal was announced in June, and are now operational with internet access, e-mail and telephone lines, including prepaid crew calling.

“The fact that the world’s largest tanker operator has chosen Ship Equip confirms that we have a competitive product and that our focus on delivering only VSAT has been right,” said Ship Equip CEO, Ivar Nesset.

“That way we do not have internal conflicts of interest around delivering high speed VSAT at a fixed cost versus maintaining revenue from lower bandwidth dial up communication.”

Paul Gauguin agrees GSM deal

Maritime Communications Partner (MCP) has announced an agreement to provide onboard GSM services to Paul Gauguin Cruises, which operates the cruise ship M/S Paul Gauguin in the Pacific Ocean region.

The contract covers GSM, CDMA, GPRS, PDSN and CrewSIM services on the M/S Paul Gauguin, and any future vessels that may be added to the fleet. The delivery includes the removal of existing network equipment and re-installation of new equipment and services.

“One of the main criteria for MCP to secure the contract was their proven ability to complete the change while the ship was still in operation and very quickly bring the vessel back online with minimal quest disruption,” said Richard Bailey, president and CEO of Paul Gauguin Cruises.

The company says that it has noticed an overall improvement in signal coverage onboard the ship, which it expects will lead to an increase in usage.

“We are very pleased to be able to bring such a fine luxury cruise ship into the MCP family of vessels,” says Fred Sorensen, managing director for MCP in the Americas.

“We will continue to build market share in the US by providing the industry’s best product portfolio and by being the top revenue producing operator in the market place.”

Cobham Satcom reports that it has agreed a deal with Ship Equip to supply the largest single quantity order ever received for its Sea Tel 09 series antennas. Ship Equip has already had a long dealer relationship with Cobham Satcom, stretching back to 1996.

MTN Satellite Communications has appointed Joseph Wright as chairman of its board of directors. Mr Wright previously served as chairman of Intelsat, from 2006 to 2008, and was president and CEO of PanAmSat from 2001 to 2006. He recently retired as CEO of Scientific Corporation.

MTN Satellite Communications has also opened a new sales and service office in Southampton, UK. Ian Masson-Davies, commercial director, MTN cruise and ferry services, will lead the new office.

Satcom Global has appointed Peter Libet as vice president of global business development. Mr Libet joined Satcom Global in November of 2008, bringing with him over 20 years of satellite communications experience in both the MSS and VSAT markets.

Sean Hatherley has taken over the role of vice president of sales at Intellian. Starting his 20-year career in England with Autohelm, Mr Hatherley relocated to the United States to work with Raytheon Marine and Raymarine, before most recently working with Navico.

Addvalue Technologies has appointed Michael Butler as an additional independent director of the company. Mr Butler was previously managing director, then president and chief operating officer and an executive board director, at Inmarsat, from May 2000 to April 2009.
Evergreen Marine Corp has successfully deployed the Inmarsat FleetBroadband satellite communications service on its entire fleet of 70 container vessels, following an installation project conducted by Stratos.

Stratos is currently also managing deployment of FleetBroadband on an additional 28 vessels operated by Evergreen subsidiaries.

Evergreen will use Stratos’ AmosConnect system to manage all e-mail, fax, SMS and interoffice communications via the terminal.

Evergreen will also run a number of additional operational applications over the satellite link, such as remote management to allow headquarters’ personnel to manage the ships’ computers without visiting the vessel, database synchronisation, and access to the onboard voyage data recorder.

Evergreen is also testing the Blue Ocean Wireless (BOW) GSM service over FleetBroadband, though a final agreement on this technology has not been reported to date.

“After a successful trial programme last year, we discovered that FleetBroadband ensures peak performance for a wide range of business-critical applications,” said Evergreen executive vice president, Patrick Lin.

“Those companies are nimble and have a hands-on approach to problem solving. The balanced approach with a finger-on-the-pulse is what we want from our suppliers and that is what we have received from DTS and Cobham Satcom.”

John DeSana, vice president of Cobham Satcom, also commented: “USAT 30 has superior efficiency and the best pointing accuracy of any system of this size, which has been an extremely useful feature when communicating in a rapidly changing environment such as the cleanup effort in the Gulf of Mexico.”

“This has allowed DTS to provide the exceptional value and quality of their network services to a much larger and more bandwidth-conscious customer base. DTS is now expanding their footprint to Africa and other parts of the world using the USAT platform.”
Marlink has launched a number of new maritime satellite communications services and tools at the SMM exhibition, including GSM, software and VSAT products.

The Call@SEA GSM service enables passengers and crew to use their own GSM-enabled mobile phones onboard VSAT-enabled ships, based on technology provided by Swedish maritime GSM company, Seanet.

Users can either utilise their own existing mobile subscription, or an onboard prepaid subscription via SIM cards provided on the ship. The system can also be used by vessel operators for communication with crew, as SMS messages can be sent to all users connected to the onboard GSM network using software provided by the Call@SEA service.

The next product being launched is @SEAdirect, an entry-level-band VSAT service offering multiple data speeds of up to 1024/256 kbps. Equipment is available under a leasing agreement, if required. The product provides internet, email and voice for business and crew use, at a fixed monthly rate, and uses the same antenna system as Marlink’s WaveCall VSAT solution.

The third new launch is @SEAwebControl, designed to offer network operators control of content and bandwidth consumption by blocking access to harmful and inappropriate websites and restricting access to bandwidth consuming services. The program can also be used to ensure that internet usage is compliant with the vessel operator's usage policy. In the event that a restricted website is accessed, the user will be immediately redirected to a Marlink website where information about the violation is provided.

Three levels of content and bandwidth control are available, with level three the most restrictive, though customised filters are available. Vessel operators are able to define whether all of the Local Area Networks (LANs) onboard are routed through the @SEAwebControl server, or if individual networks are selected.

@SEAwebControl is available to all VSAT customers, with no additional equipment installations required onboard the vessel.

Finally, Marlink has also introduced a new @SEAOptimizer bandwidth optimisation service for use with its VSAT products, which it says can improve network efficiency by up to 95 per cent by removing repetitive traffic from the Wide Area Network (WAN).

The company says it is particularly useful with web-based applications, such as browsing, e-mail and file sharing, utilising features including caching, Transmission Control Protocol (TCP) acceleration and data compression.

@SEAOptimizer maintains copies of routinely accessed data on a disk installed on the ship, eliminating unnecessary requests to web servers which in turn increases the speed of the overall communications network.

The service is application-independent, and any content stored can be reused by any application, file or user.
Thrane & Thrane has introduced a range of new GMDSS communication products, that will together form its SAILOR 6000 GMDSS Series.

The products will feature the company’s new ThraneLink network solution, a communications platform developed by Thrane & Thrane engineers enabling all SAILOR 6000 Series products to communicate with each other. This uniform communication system is based on a LAN interface, using standard RJ45 cabling and open protocols.

This enables a service technician to access all the SAILOR products from a single point, for diagnostics and uploading of new software, while also allowing the network to automatically identify new products in the system, assisting in installation.

The SAILOR 6000 GMDSS Series consists of five new core products: a console system; an Inmarsat mini-C with message terminal; a new VHF system; and a new MF/HF unit.

The backbone of the SAILOR 6000 GMDSS concept is the new console design and configuration, which can be delivered with equipment installed and fully tested from the factory.

Thrane says that this series of products is also the first to provide specifically designed triple GMDSS, SSAS and LRIT functionality, via the new SAILOR 6110 mini-C, the first ever touch screen operated mini-C (via the required SAILOR 6006 Message Terminal).

The new maritime radios (SAILOR 6222 VHF and SAILOR 6300 MF/HF) are designed to work both as part of the series, or as standalone communication tools.

"The intensive platform and product development that we have undertaken to create the SAILOR 6000 GMDSS Series products and ThraneLink has resulted in a truly next generation offering with a wealth of new functionality and benefits, all underpinned by the highly regarded SAILOR build quality and reliability," said Casper Jensen, VP maritime business unit, Thrane & Thrane.

Credit card crew calling from Vizada

Vizada has developed a new Universal Card Crew Order service, to enable crew to purchase and reload private communications credit online with their own credit card.

Crew members are not required to have a pre-configured account or to obtain the card from the shipping manager, and will instead have full independence to buy cards or credit on board. The shipping company only needs to agree to offer the service on the vessel, and determine the price of communications credit.

To purchase cards or reload existing ones, crew members connect to Vizada’s online management system using the satellite’s onboard vessel.

The payment process, which takes place in a secure online environment, follows the same format as any standard online purchasing system, based on a partnership with the Global Collect credit company.

Cards of 30 or 50 minutes can be paid for using any standard debit or credit card.

Vizada says that this service will help to free crew members, shipping managers and captains from the need to perform any administration in relation to calling cards - all purchasing and reloading is carried out online by the individual crew member.

Shipping companies can sign up for the service by contacting a Vizada service provider.

The launch of this new service coincides with Vizada’s celebration of the 10th anniversary of the launch of the SkyFile Mail service at SMM.

SkyFile Mail was originally launched at the SMM trade show in 2000, with the latest version, version 8, launched in October.

Today, more than 12,000 customers are using the software, averaging more than 3 million messages per month, and almost 40 million messages per year. In addition to this, almost 2 million SMS messages are sent or received annually.

Version 8 of the software will provide ‘split billing’ for IP services, and a ‘My Mail’ feature which will allow crew members to customise their individual prepaid sub-accounts to communicate in their own language.

Each sub-account can be configured in nine different languages - English, French, German, Italian, Spanish, Turkish, Japanese, Chinese, and Russian. Messages can be sent or received in all globally available languages simultaneously, enabling users to switch from one language to the other.

My Mail accounts stay with the crew member, and can be accessed from each different ship they serve on with all configurations and settings remaining unchanged.
Fastnet and Stena Line in VSAT agreements

Marlink has secured a new 3-year contract with Irish ferry operator, Fastnet Line, to deliver, install and operate its Sealink VSAT solution onboard Fastnet Line’s flagship vessel, Julia, while also renewing a separate deal with Stena Line.

The new system to be delivered to Fastnet will be used to provide bandwidth for vessel management, as well as passenger and crew applications.

“The installation of Marlink’s Sealink solution is in line with our ongoing commitment to offer our customers greater choice, as passengers will be able to take advantage of onboard internet and telephone services, providing them with greater value during their journey with us,” commented Owen Barry, operations manager, Fastnet Line.

“In addition, Sealink will improve operational efficiency by strengthening communications between the vessel and home office ashore and enabling crew to effectively stay in touch with friends and family at home, improving crew welfare.”

The Ku-band VSAT installed on the MS Julia will provide bandwidth of up to 128 kbps, as well as 10 simultaneous telephone channels, and an administrative LAN connected to an internet VPN service.

“The contract also includes Marlink’s Prepaid Talk and Internet@sea services, which can be sold to passengers at Fastnet Line’s own defined rate.”

Stena Line’s renewed and upgraded satellite communications contract will now include integrated satellite telephony access to 34 vessels and internet access to 27 vessels.

Stena Line will use the VSAT system, with access to 8 Mbps satellite closed user group capacity, to offer free WiFi internet access for passengers.

“The ship-to-shore network on the entire Stena Line fleet of fast ferries, traditional combi ferries, RoPax freight and passenger ferries will be upgraded, as well as its pure cargo ships operating in Scandinavia and the North and Irish Seas.

Admiration of LAN-LAN services between ships and land, TV reception in the Nordic region and company ship-to-shore networking with terrestrial back up and rerouting functionality at Marlink’s Eik Teleport will also be included, as well as third party bandwidth and IP management.

“The new contract between Stena Line and Marlink is effective for the next four years.”

“We have worked with Stena for some years breaking new ground as we have developed unique services,” commented Tore Morten Olsen, CEO, Marlink.

“They were our first customer to provide pay-per-use on our Internet@Sea Prepaid Surf service. We are delighted that we can continue to innovate with our partners and look forward to more exciting developments in the future.”

Globalstar satellite launch date announced

Globalstar has announced that October 19th is to be the scheduled inaugural launch date for six of its second-generation satellites, using the Soyuz launch vehicle.

All six Globalstar satellites are currently undergoing pre-launch assembly, integration and testing at the Baikonur Cosmodrome in Kazakhstan.

A total of four launches carrying six satellites each will be conducted by launch services provider ArianeSpace using the Soyuz launch vehicle, which has been used to successfully launch Globalstar satellites on eight previous occasions.

The 24 new second-generation satellites will be integrated with eight first-generation satellites that were launched in 2007, to form a 32-satellite constellation.

Once fully deployed the new constellation and upgraded ground network are designed to provide increased data speeds of up to 256 kbps in a flexible internet protocol multimedia subsystem (IMS) configuration.

Globalstar expects the new constellation to secure its space segment beyond 2025.

“(We are) launching and deploying our second-generation satellite constellation years ahead of our primary competition,” said Tony Navarra, president, Globalstar.

“Once the new constellation is fully deployed next year, we expect that competitive advantage will have expanded to as many as six years or more.”

“We will also once again reliably provide the world’s finest quality mobile satellite voice and fastest mobile satellite handset data services to commercial and government customers in more than 120 countries.”

Norbulk to install OpenPort on 70 ships

Norbulk Shipping is to install Iridium’s OpenPort satellite communication systems across its fleet of more than 70 ships, in a move to reduce its monthly ship-shore communication costs.

Iridium service provider AND Group will supply the equipment and service plan for the Norbulk ships, while also integrating the satellite terminals with a software system which includes a web-based tool for managing e-mail, data and voice communications.

“Iridium OpenPort, coupled with AND Group’s flexible service plan, will help us greatly reduce our monthly satellite communication charges,” said Walter Woodage, director and general manager of Norbulk.

“In the current economic climate, it’s vitally important for us to control our operating costs in order to remain competitive.”

Ian Robinson, CEO of AND Group, notes that his company has now installed Iridium OpenPort terminals on more than 400 ships around the world.

In other news, Iridium also reports that it is collaborating with the Danish Maritime Safety Administration (DanMSA) in the roll out of the EfficienSea project, a pilot e-Navigation programme to broadcast Maritime Safety Information (MSI) to ships in waters outside the coverage of terrestrial communication systems.

Under the programme, DanMSA will conduct shipboard tests of Iridium-based short-burst data (SBD) devices for receiving and printing out MSI messages.

Trident Sensors and Rock Seven, both Iridium partners, are respectively supplying the shipboard device for the tests, and the software and infrastructure to support the MSI message transmissions.

The sea trials are scheduled to run through into 2011, primarily conducted in the Baltic Sea Region and the waters around Greenland.

Results will be presented to international organisations working with e-Navigation, such as the IMO and the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).

Ships subject to the Global Maritime Distress and Safety System (GMDSS) requirements must be equipped with mandatory radio and satellite communication equipment, including a NAVTEX receiver that prints out weather alerts and other safety messages sent from shore authorities.

Iridium’s SBD devices will be used to mimic NAVTEX processing and message formats, while also providing geo-fencing and vessel tracking that will permit the MSI broadcasts to switch automatically from NAVTEX to Iridium whenever the ship enters waters not covered by the NAVTEX transmitters.

“The opening of new Arctic Nav Areas for shipping will pose a challenge for authorities charged with mandatory marine safety broadcasts in those regions,” said Omar Frits Eriksson, head of DanMSA’s innovation and project division.

“In addition to our MSI work within e-Navigation in the Baltic Sea Region, we are working with Iridium and its partners to investigate additional methods for delivering MSI messages to ships in Arctic Nav Areas, taking advantage of Iridium’s low-latency satellite SBD service.”

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LKTH buys Virtek for $6.5m

KVH and Virtek Communication have announced that they have entered into an agreement for KVH to acquire the Norwegian communications technology company, for $6.5 million.

Virtek’s CommBox system, supplied to more than 700 vessels owned by 50 different shipping companies primarily based in Scandinavia and Northern Europe, is used to manage communications to and from vessels over a variety of different satellite communications services.

Virtek’s estimated revenues for 2010 should be between $2 million and $3 million, according to the companies.

Functions integrated into the CommBox equipment include automatic switching between satellite services for redundancy and cost control, onboard firewall and virus protection, and optimised data transmission technology.

Mobile communications tools such as mail servers and web servers are also part of the system, as well as other communications tools to facilitate file transfers and remote access to onboard equipment.

As a result of this acquisition, KVH says that it anticipates being able to support a significantly larger population of users with its existing satellite capacity, as well as offering new content services like chart and software updates, digital newspapers, weather reports, and IP-based television.

“Virtek, its talented team of software engineers, and its proven middleware applications are an excellent fit with KVH and our rapidly expanding satellite communication business, most notably in the commercial marine market,” explains Martin Kits van Heyningen, KVH CEO.

“The capabilities offered by Virtek’s CommBox technology complement and expand the comprehensive satellite communication concept that is at the heart of the TracPhone V7 and mini-VSAT Broadband solution.”

“The integration of this powerful middleware technology will strengthen our competitive position in the maritime broadband marketplace, enable us to offer a wide range of value-added functionality to customers, and provide a path to enhance the efficiency and versatility of our mini-VSAT Broadband data communications network.”

Virtek’s current management and team will continue to operate as a discrete unit within KVH, while also integrating the CommBox and any future technology into KVH’s overall future strategy.

IDirect protocol integrated by VSAT manufacturers

MTN Satellite Communications has introduced StreamXcel Plus, a new integrated hardware and software solution for managing shipboard satellite communications, which incorporates both VSAT and FleetBroadband services.

StreamXcel Plus will provide automatic switching capabilities between MTN’s Ku-band service and Inmarsat’s FleetBroadband whenever the vessel moves outside the Ku-band beams.

Two separate onboard corporate and crew communication networks will be provided onboard under the service.

The corporate network includes two voice lines, data and internet access over VSAT, with FleetBroadband as a backup communications system. VSAT bandwidth, data compression and optimisation is also included.

The crew network offers two voice lines, utilising MTN’s OceanPhone stored value calling plans, and Wi-Fi internet access. The bandwidth required to support the crew network is provided at no additional cost, and does not interfere with the corporate bandwidth.

A range of management tools for the ship-to-shore voice and data links are also offered, including data compression, remote administration of servers and computers on board, and anti-virus, anti-scam and content filtering.

An optional bandwidth analyser software package is additionally available, with VSAT traffic analysis capabilities for to best suit their needs.

OpenAMIP is an IP-based protocol that facilitates the exchange of information between an Antenna Controller Unit and a satellite router.

It allows the router to command the antenna and enables the use of Automatic Beam Switching, which transfers connectivity from one satellite beam to the next as a vessel passes through multiple footprints.

In addition, the protocol will also help service providers and their customers to meet government regulations by commanding the antenna to mute the signal in no-transmit zones.

“Maritime VSAT networks are complex, and service performance depends significantly on how well the underlying technologies integrate,” said Christian Bergan, director of maritime vertical, iDirect.

“Our goal through the OpenAMIP protocol is to increase the diversity and promote a shared standard within the maritime industry for technology providers to work together on making maritime networks more reliable and manageable for end users.”

Combined VSAT and FB system from MTN

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“Our goal through the OpenAMIP protocol is to increase the diversity and promote a shared standard within the maritime industry for technology providers to work together on making maritime networks more reliable and manageable for end users.”

Thrane agrees FB network upgrade deal

Thrane & Thrane has been awarded a contract by Inmarsat to upgrade and add new functionality to Inmarsat’s Broadband Global Area Network (BGAN), the network which forms the backbone of the FleetBroadband service.

The contract is valued at DKK 25 million (approximately US$4.25 million), with work already underway at Thrane & Thrane’s systems division.

The full feature set agreed under the deal is expected to be available on Inmarsat’s network during 2011, allowing for an enhanced range of services and capabilities.

“Thrane & Thrane have been instrumental in the on-going development of the BGAN system, and we are delighted to be working with them on this next stage of its evolution,” said Richard Denny, senior vice president of global networks and engineering at Inmarsat.

“We look forward to the improved functionality that this latest set of enhancements will deliver to users globally.”

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Come and visit SpeedCast at DS Hong Kong on October 27th & 28th at BOOTH n° 13

Come and visit Eutelsat at DS Athens on December 1st & 2nd at BOOTH n° 14

Introducing the 1st Seamless Global Ku Band Maritime Solution
NSC agrees fleetwide satcom contract

www.telemar.com

NSC Schiffsfrachtsgesellschaft and Telemar Communications have signed a formal agreement which will see the shipping company outfit its entire fleet with Inmarsat FleetBroadband 250 and Telemar seiCOMM software. NSC operates a fleet of more than 50 vessels, with an average age of 3.5 years. The agreement was made by Telemar’s German sales and support office in Hamburg, and formally concluded during the SMM exhibition.

Under the terms of the agreement, NSC will replace its Inmarsat Fleet 77 units with FB250, and will use Telemar seiCOMM software to manage its communications traffic. The full deal was reached after a six-month sea trial using the new equipment.

“We chose Telemar because they were able to deliver the level of service that they promised in a single, complete package,” said NSC, in a statement.

“From the start, Telaurus gave us a clear picture of what seiCOMM could do, how communications can be configured and how much they would cost. This was proved during the sea trials on the Memphis.”

“We were particularly concerned to avoid the cost problems we know can be encountered when moving to broadband communications. It is important for us to demonstrate to our principals that we are managing the final and optimal efficiency. Telsarus confirmed that it is possible to have complete control and visibility of those costs.”

NSC chose the FleetBroadband 250 system as it felt it represented the best mix of data speed and simplicity of installation due to its small sized radome, which measures around 32cm in diameter. The system is flexible and robust architecture, the network is capable of rapid, easy expansion to meet the growing demand for affordable broadband service and voice communications at sea.

“Advancements in Viacom’s ArcLight spread spectrum waveform combined with additional satellite capacity allow us to provide more than six times the bandwidth previously available in this region.”

The mini-VSAT network is delivered by eleven satellite transponders and eight secure earth stations, offering voice service and internet access with speeds of up to 512 kbps (upload) and 2 Mbps (download).

“For mariners looking ahead to their future communication needs, the mini-VSAT Broadband solution offers today what other providers are planning to offer three or four years from now,” Mr Bruun added.

“mini-VSAT Broadband is already the fastest growing global VSAT network for the maritime industry as we expect to ship our 1000th system very soon, less than three years after the launch of the service.”

While the network already offers outstanding capacity worldwide, we are committed to the continued enhancement of the service that vessels worldwide already enjoy. That is why we’re now preparing to roll out this advanced technology into other mini-VSAT Broadband regions around the globe.”

Meanwhile, in the Middle East, Ship Equip, New Wave Broadband and Teleron Satellite Broadcasting (TSB) have signed a multi-year agreement for the provision of satellite capacity and iDirect services.

TBB will provide uplinks for the iDirect services from its Nittedal teleport in Norway, where it has recently installed an iDirect hub.

“The increase in satellite capacity will be used to provide the companies’ existing customers with more bandwidth, as well as opening up opportunities to offer more services to new customers.

The coverage expansion has also helped to extend the coverage area available for the provision of multi-regional Ku-band services.

“We are very happy to have signed a deal with New Wave and Ship Equip, and are currently discussing additional connectivity in other regions,” said Michael Carter, sales director - datacomms services with Telenor Satellite Broadcasting.

“We have increased our focus on the maritime market recently and this agreement is evidence that our efforts have been paying off. This market now accounts for a significant part of our datacomms business and it is obviously important to us.”

Ship Equip CEO, Ivar Nessel, also commented: “The deal increases reserve capacity considerably in the Middle East where bandwidth demand has been increasing, and comes also as a response to a rise in demand for Ship Equip’s maritime broadband solution, SEVSAT.”

Triton and BEEMAR implement Hughes VSAT

www.hughes.com

Triton Diving Services and BEEMAR have been implementing new maritime broadband systems from Hughes Network Systems. Louisiana-based Triton provides diving services to oil companies, derrick barges, government, and commercial vessels, and other businesses operating in the Gulf of Mexico.

The company’s fleet of diving vessels will now have access to internet, data, VoIP, and video capabilities via the broadband connection. Triton’s broadband network and applications will be managed by Hughes in partnership with ESI Corporation. ESI installed the Hughes’ marine-stabilised VSAT antennas on Triton’s fleet of Diving Support Vessels (DSVs), which are able to track their target satellites and compensate for the constant pitch and yaw movement of the vessels.

“We believe that all diving incidents are preventable, and our goal is to zero harm to people and to the environment,” said Gary Pouwels, vessel and equipment manager at Triton.

“That’s why we equip our ships with the best available maritime technology. Hughes gives us the high performance and advanced network application capabilities needed to keep our crews safe and happy.”

In this regard, one of the main areas where Triton intends to apply the communications system will be in the provision of real-time data for Triton’s Health, Environment and Safety (HES) management system.

The new network will also be used to support Triton’s efforts as part of the Deepwater Horizon oil spill cleanup project.

“High availability and high performance maritime solutions offered in a cost-effective package are what the Hughes Maritime Broadband solution is all about,” said Vinod Shukla, senior vice president, international, Hughes.

“We are proud to be a part of Triton’s Diving Services has chosen Hughes as the preferred communications service provider for its fleet of diving vessels and look forward to working with them to continually enhance the capabilities and benefits for their crews on board.”

BEEMAR’s contract with Hughes covers the installation of VSAT communications systems replacing its Fleet of new Dynamic Positioning 2 (DP-2) Platform Supply Vessels (PSVs).

BEEMAR’s entire fleet will be equipped with a fully managed maritime solution from Hughes, again in partnership with ESI Corporation, under an agreement including internet access, voice, e-mail, video, and Wi-Fi services onboard the ships, for crew and operational use.

“Our vessels support everything from deepwater oil production, deep shelf exploration, offshore and sub-sea construction, to seismic and special well services support,” said Darrel Plaisance, BEEMAR vice president and COO.

“In all cases, fast internet services are required to coordinate resources and personnel, and to enable workers to keep in touch with their families. Because Hughes manages it all for us, it’s one less thing for us to worry about.”

The DP-2 vessels use computer controls to automatically maintain the ship’s position with thrusters and propellers, rather than dropping anchor.

The Hughes VSAT system will provide services for BEEMAR vessels in the Mediterranean, Red Sea, Caribbean, and off the coast of Mexico.

ESI has already installed gyro-stabilised maritime satellite antennas on seven of the PSV fleet to date under the deal, with five more ships under construction.

Ku-band VSAT coverage expansion continues

www.minisatv.com

VSAT satellite service providers Kvh, Ship Equip, New Wave Broadband and TeleronSatellite Broadcasting have boosted their respective Ku-band coverage areas through the agreement of new satellite capacity contracts in various global regions.

Users of KVH’s mini-VSAT system in the waters of North America, the Gulf of Mexico, and Central America, will benefit from the introduction of an additional full satellite transponder covering the area, as well as the roll-out of a new spread spectrum waveform.

KVH, and partner ViaSat, report that they have expanded the broadband network's capacity in the region by more than 500 per cent, to support existing and future subscribers.

“The mini-VSAT Broadband network was designed from the ground up to offer service and performance superior to traditional maritime VSAT services,” said Brent Bruun, KVH, vice president of satellite sales and business development.

“Thanks to its flexible and robust architecture, the network is capable of rapid, easy expansion to meet the growing demand for affordable broadband service and voice communications at sea.”

“Advancements in ViaSat’s ArcLight spread spectrum waveform combined with additional satellite capacity allow us to provide more than six times the bandwidth previously available in this region.”

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Shell begins roll-out of onboard wireless crew networks

Shell International Trading and Shipping Company Limited (STASCo) is to implement wireless broadband networks across its fleet of 72 oil and LNG carriers, with the aim of providing crew welfare services such as e-mail, web browsing, social networking and low-cost voice calling to its seafarers.

These new networks will be implemented on the STASCo vessels by satellite communications company NSSSL, which will provide its ComNet VSAT broadband service to the Shell fleet as part of a five-year contract.

Installation of the equipment on the STASCo vessels began last year, started with a team of engineers flying around the world to deliver the roll-out.

In order to reach the companies’ goal of finishing the broadband installations across the entire fleet by the end of 2010, NSSSL says it has doubled its engineering resources to dedicate extra manpower to the project.

The relationship between NSSSL and STASCo extends back 12 years, with the satcom provider having originally supplied a Mini-M Crew Calling system in 1998, which utilised phone cards to manage usage.

As an existing service provider, STASCo invited NSSSL to present its VSAT solution to the company approximately four years ago, as it began to explore the possibility of implementing broadband communications on its ships.

By this time most STASCo vessels were operating with Inmarsat Fleet 77 onboard, however this was mainly used for operational purposes, and the shipping company was keen to introduce new crew services on its ships to encourage loyalty and improve retention rates.

With the Ku-band coverage beginning to expand at the same time, STASCo decided that this type of solution may be an ideal way to meet those goals.

A resulting trial on four vessels trading in the Pacific Ocean in 2007 proved to be very successful in this regard, leading STASCo to extend the system to several other vessels operating in the region throughout 2008, and then to two vessels operating on a global basis shortly thereafter.

In 2009 Shell contemplated making VSAT connectivity a fleetwide offering, and began a tender process featuring NSSSL and a number of other providers.

Following this process STASCo concluded a contract with NSSSL in March 2010, approximately four years after the initial discussions about a trial had taken place.

Onboard network

The network design that NSSSL will provide under the contract will be organised in a kind of ‘internet café’ layout, with a series of wireless access points for crew around the vessel, as Ian Lewis, engineer manager at NSSSL, explains.

“Because the ships are metal hulled normal Wi-Fi wouldn’t travel that far, especially around the cabin areas, so we had to use quite a number of wireless access points,” he told us.

“This means that the crew can bring their own laptops.”

Essentially, this system provides free-dom of access to the crews to use the particular applications they are comfortable with to communicate online, whether that be webmail from Yahoo or Google, Facebook, or even Skype.

“On some of our networks we’re asked to provide the e-mail system, and the software applications and everything else, but and downgrade anyway, and the boats can go into suspension, if they’re going into the yard for instance. If there’s something that takes them out of action their airtime package can be moved to another boat.”

Bandwidth usage

Since STASCo has begun the introduction of the wireless network for crews NSSSL notes that it has seen a vast amount of traffic over the VSAT links, with those onboard taking full advantage of the new communications opportunities provided to them.

“The usage onboard has been huge, partly because they didn’t have internet before – they went from having nothing to having megabits of bandwidth online.

“We have terms and conditions associated with ourselves, as an internet ISP, that we echo on to Shell as a customer,” said Mr Lewis.

“They then echo those on to their staff – things like no port scanning, no deliberate introduction of viruses, no terrorism, no copyright theft, things like that. We’ll be caught because they are our IP addresses, which we’ll know are on a particular ship.

Then it’s up to the Captain to find out who’s responsible.”

NSSSL retains detailed data records of the traffic passing to and from the vessels at its network hubs, which is available to STASCo for monitoring purposes. At the moment this is only looking at data volumes, though further granularity in the reporting is possible if needed.

“We have a system where we measure the usage of each vessel continuously, throughout the day, every few seconds,” said Mr Lewis.

“That’s presented in an online graph, password protected so the user can log in and see the usage per vessel – the last hour, the last 24 hours, the last week, the last month, and so on. They can see the traffic, downloaded and uploaded, to any particular ship, and also the total number of megabytes.

“We have a tracker they see the total traffic, but we have another tool that can produce reports on the types of traffic. It could show you how many gigabytes of iTunes or e-mail or webcam or Facebook you downloaded. Those are bespoke reports, so if they want to do specific reports for a specific ship for a specific week, then we can produce that report.”

For the time being however, STASCo’s focus is on providing the widest range of possible services to its crews, to make sure that its best and brightest remain with the company as loyal Shell employees.

With the provision of this open wireless network it seems that the seafarers on its ships, and their families at home, have been reaping the benefits of this new commitment to their welfare.

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GE Satcom

Triple Play
the perfect mix

Good fleet performance comes in threes with GE Satcom’s Satlynx Maritime solution. Our triple-play satellite network solution easily multiplexes internet access, TV entertainment and an integrated low-priced telephony system into any cabin, technical or recreation room. The Automated Beam Switching (ABS) feature opts for the least-cost route between three options: flat-rate Ku-band satellites, or Inmarsat or Iridium. You can control the system from land, monitoring your entire fleet worldwide - from fuel efficiency to positioning at sea - while keeping ship operations streamlined and crew morale high.

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www.gesatcom.com
Globe Wireless has launched a new maritime satellite communications system called Globe iFusion, incorporating a FleetBroadband terminal, a communications management gateway, and onboard GSM equipment. Specifically designed for IP satellite services, Globe iFusion aims to integrate shipboard satellite communications, shore-side administrative control, GSM voice and data, firewalls, and crew communications into a single system.

Globe will provide hardware, installation, airtime, applications and maintenance as part of the package, as required. The company says that it will be offering the complete integrated onboard setup for a price of USD$12,000.

The new system comprises two main components, the Globe i250 and the Globe iPortal. The Globe i250 includes a Globe Wireless-branded Inmarsat FleetBroadband 250, based on Addvalue technology, and an onboard router gateway.

The system is configured to allow users to make voice calls using a GSM handset or normal fixed-line telephone, send or receive e-mail and fax, browse the internet, and upload or download files. It also allows users to access Globe Wireless’ commercial applications.

The Globe iPortal is the shore-side portion of the system, which allows land-based offices to control the communications services onboard.

This includes the administration of user profiles, browsing capabilities, firewall settings, satellite gateways and least-cost routing. “We have entered a new phase in maritime communications,” said Frank Coles, president and CEO of Globe Wireless.

“This solution fuses service, applications and support into a single platform. The solution includes a dual firewall, highly-optimised IP connections, and multiple least-cost route gateways.”

Development

The evolution of this system goes back approximately four years, following Globe Wireless’ acquisition of Seawave. This deal included a piece of Seawave technology called the Integrator, which was the forerunner to the new shipboard gateway. “It had an Iridium terminal inside, and for IP and Inmarsat services it used MPDS. It also had a GSM unit in there, but that was purely for data communications out of the terminal,” Mr Coles explained.

“Then, earlier this year, we bought a company called Zynetix, which provided us with a GSM platform, and made us a GSM operator with our own SIM card. And, of course, we also became a FleetBroadband distribution partner.”

“We then went and talked to a company called AddValue in Singapore, a manufacturer of FleetBroadband antennas. With their help and with our engineers we put together this product.”

Globe’s aim was to try and integrate a number of the various solutions available through these different products into a single package, that could provide shipping companies with one platform covering most of its communications needs.

“There are airtime resellers out there, companies that provide shipboard GSM, companies that provide satellite equipment, a whole raft of e-mail providers,” said Mr Coles.

“If you need a network router or IP optimisation, you need to go somewhere else, buy a box and put that on board, and then go somewhere else for the installation and putting in the VPNs. You could go and do it, but you’d be dealing with a spaghetti of different companies.”

“What we’ve done is taken the ‘spaghetti’ out of it, and put it all in one place. To put all of those boxes together today is going to cost you somewhere in the region of $20,000. And depending on the routing you put on board, or the IP acceleration or other things, those numbers could be considerably higher.”

Mr Coles believes that the $12,000 price point that Globe is marketing the product at will encourage the industry to look very seriously at the offering.

“We think this is a very small price to pay for the market, when you consider the accidents waiting to happen, when you consider what’s in there,” he said.

“The power to control any of the terminals on the ship, control your business communications, your crew communications, your voice and your data traffic.”

“The fact that the package comes already integrated also helps in smoothing the installation process, which can be managed from the shore offices once a connection is established.”

“It’s as simple as taking the box onboard, connecting the antenna, and when it talks to the shore it will be configured and ready to go. And that also means that when breaks you can do the same thing with the next box,” said Mr Coles.

“You also have the ability to add up to 10 other IP connections. There are three ports on the box, but with a switch you can add up to 10.”

“Not that a ship is ever going to have 10 comm connections, but you could have one per seafarer,” he explained, in another a second FleetBroadband terminal, and in another VSAT – Ka-band, Ku-band or C-band. I joked with the Inmarsat guys that we’re already Ka-band ready for their next generation.”

GSM

From a crew perspective, one of the most exciting aspects of this system could well be the possibility to access a range of cheap communications options from their own mobile phones.

To access the onboard GSM only a Globe Wireless SIM card and an unlocked cell phone handset are required. The seafarer inserts the SIM into the phone, and the Globe i250 system will create a prepaid account for the crewmember.

Once this is done that crew member will have instant access to voice calling, SMS and e-mail via their mobile phone.

Voice calls will be charged at a flat rate of $0.55 per minute, to landline numbers anywhere in the world. Calls to mobile phones will be higher, and will vary depending on where the call is terminated.

“We believe voice remains very important in this market, we still see very high usage amongst our crew,” said Mr Coles.

“The crew can use their cell phone onboard as the means of communicating with shore. It provides a prepaid and post-paid platform for voice and data, in one place, and from the same billing plan the shipping company buys from us.”

“It allows you to route the call over the inbuilt i250 (FleetBroadband antenna), or any other satellite terminal connected to the box – VSAT, Iridium, or even another FleetBroadband.”

SIMs are available from the ship’s Captain, and come with $25 initial credit. They can be recharged using a prepaid reload code, sent to the Captain by Globe.

The crew member purchases the code and inputs it into the phone to top-up. Crews can also check their balance on their phone, which sends a message to the network on the ship and retrieves the information.

“All of the crew accounts will be based on the SIM card. The crew buy a prepaid SIM card, insert it in their cell phone, switch on the phone, follow some instructions, and they are up and running on voice, on SMS, and on e-mail,” said Mr Coles.

“By the end of the year they’ll be up and running on internet browsing too, all from the one SIM card and one account. They don’t have to browse on the phone, they can browse on a computer with the same account, but the SIM card is what activates the account and puts them on the network.”

This same account will also work on any other ship that is running the Globe iFusion system onboard, meaning that the seafarer can keep the same SIM card in their phone and access their store of credit as they move from ship to ship.

SMS over the system will be charged at approximately a cost effective rate.

However, despite this low data cost Globe is convinced that voice calling will be the most popular service available to the crews.

“Blue Ocean Wireless, who really started the market in GSM, always said that they had 87 per cent SMS traffic – but that’s because the voice rates were too high,” said Mr Coles.

“We have it exactly the other way round; we have about 87 per cent voice and very little SMS. Because we have $0.55 per minute the crews much rather talking, they’re not all teenagers going crazy on SMS. They’d rather make a phone call, especially at a cost effective rate.”

All phone numbers available on the Globe SIM cards are currently US based, though Globe is looking at extending this to numbers in other countries. However, Mr Coles notes that most calls are ship to shore over the system, so the number of the phone on the ship is not important in that case.

“Because of the way telex rip everybody off on calling a ship, you’d better off sending an SMS to the ship saying ‘call me’,” he said.
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Eimskip and JR Shipping agree SIS deals

During the successful pilot implementation on two vessels, both vessel and office staff acknowledged a vast increase in efficiency,” noted Fahian Klík, manager ICT, JR Shipping.

“Processes and procedures, such as maintenance planning, stock control, vessel administration and document control, were implemented into a user-friendly and reliable management system.”

Fleet management software from Jeppesen

Juratong Shipyard extends AVEVA agreement

Jurong Shipyard, a subsidiary of Sembcorp Marine, has extended its association with design technology company AVEVA, selecting its AVEVA Marine (12 Series) system for a number of upcoming maritime and offshore projects.

With JR Shipping’s recently announced contract with SIS, Eur ICT, JR Shipping.

In other news, Jeppesen also reports that it has launched a ‘community resource’ for the maritime industry, ahead of IMO’s mandatory carriage requirements for ECDIS and its e-Navigation implementation plan.

The website (www.e-navigation.com), with associated forums in social media spaces such as Facebook and LinkedIn, provides information about technical concepts, rules, new developments and trends.

“e-Navigation and mandatory ECDIS will impact everyone in the shipping industry for a generation, as it involves using all the capabilities of technology to empower ships’ operators and improve decision-making,” said Willy Zeller, marketing and communication manager for Jeppesen.

“We believe that this idea has tremendous potential, with links to efficiency, safety and a simpler interface for navigators.”

An interlinked reference library of articles relating directly to ECDIS and e-Navigation is included, with visitors able to propose changes or new articles. Links to sites such as Twitter, Facebook, Delicious and LinkedIn allow users to share, interact and discuss their own take on e-Navigation issues.
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Bourbon Offshore Norway has agreed a contract with maritime technology company Palantir for the delivery of Palantir's KeepUp@Sea solution on 20 Bourbon Offshore vessels.

Under the terms of the deal Palantir will also be responsible for service and support for the existing IT and communications infrastructure on Bourbon Offshore vessels.

The new Bourbon Vessel IT Standard that the company intends to introduce is built on Palantir’s KeepUp@Sea solution, and will be delivered as a managed service from Palantir’s headquarters in Stord, Norway.

Additional elements of the contract include hardware, software, logistics, installation and migration services onboard the vessels.

Pilot installations of the new IT systems are scheduled to take place in October, with the global roll-out of the technology to the Bourbon Offshore fleet set to follow soon afterwards.

“We have come to the conclusion that the KeepUp@Sea solution from Palantir would best meet our overall target, which is a reliable and secure IT&C network onboard of our vessels,” said Kay-Åge Fugledal, IT vessel manager at Bourbon Offshore Norway.

The new tool allows simulations of the completed vessel to be created early in the design process.

Autoship Systems Corporation has announced the release of a new automated tool for generating Autoload Databases, for use with its ship design software systems.

The new feature allows ship designers to automatically export their 3D model and stability database into the Autoload software system, regardless of the 3D design package being used.

Autoship says that this feature has been high on the wish-list of its customers, as it allows them to export their early stage designs into Autoload databases so they can show simulations to their own potential end-clients, and then make any necessary changes as part of the design evolution.

This new release will help ship designers to quickly create Autoload databases for graphical simulation, without having to wait until the end stage of their projects.

This will also allow the software to be used to show vessel operators’ own end clients how a vessel will perform, and to produce necessary loading, stability and crane handling documentation upfront.

Autoship’s development team have chosen IGES as the backbone format for the new tools.

The new tool allows simulations of the completed vessel to be created early in the design process.
Prestige deal for ShipServ

Prestige Cruise Holdings has signed up to join ShipServ’s maritime e-commerce trading platform, TradeNet.

Prestige, which operates the Oceania and Regent Seven Seas brands, will use TradeNet to purchase spares and supplies for its current fleet of six ships and two newbuildings to be delivered in 2011 and 2012.

Prestige Cruise Holdings went live on TradeNet in July 2010, following John Gustafsson’s recruitment as director of technical purchasing. Mr Gustafsson immediately targeted improved control of purchasing as an operational goal for the fleet.

“Our ships are constantly moving targets so it’s crucial that we can generate purchase orders at the right time to get the supplies to port on schedule,” he explained.

“The first improvement for us was that, instead of dozens of clicks to create and e-mail a (purchase order) to a number of suppliers, ShipServ enables us to reach several in one go. It’s a tremendous time saving to have all your suppliers all in one place.”

Mr Gustafsson says he had calculated a two to three week lead-time for roll-out of the system, but in the event, his purchase agents were using TradeNet by the afternoon of the first day.

“We expected a tough learning curve but we were up and running the same day,” he said.

“We expect to be able to manage our new tonnage without adding to headcount. In fact we expect to assign a purchase agent to do follow ups and tracking. What ShipServ is doing is freeing up time.”

ShipServ estimates that a large cruise ship can generate up to eight times more purchase orders per year than a standard cargo ship – equivalent to a small fleet from a single vessel.

In other news, ShipServ also reports that it is expanding its service to German shipowners through new cooperation agreements with Germanischer Lloyd’s software arm, GL Maritime Software, and German software house R+M Business Software.

As part of the GL deal a special ‘plug-in’ is to be developed, which can connect GL maintenance and purchasing systems onboard ship directly to suppliers on TradeNet.

“Having clients being able to connect directly via their GL software will really open up our ability to deliver value to more ship owners, and reduce the time it takes for them to get onboard,” said Paul Ostergaard, founder and CEO of ShipServ.

“It will also help our supplier members too by deepening the pool of ships available and bringing them new customer opportunities.”

‘Plug-ins’ will also be a feature of the deal with R+M, which will integrate TradeNet into its ‘for.SHIP’ programme, an industry-specific solution based on the Microsoft Dynamics NAV system.

“Our co-operation with ShipServ enables the customer to exchange data with TradeNet directly from their system,” explained Oliver Schmitz, sales manager, R+M.

“This way integrated communication between ship and shore is being extended to the supplier. The whole purchase can be completed without media conversion and in structured data. This guarantees an efficient way to communicate with suppliers and handle requisitions.”
Improving seafarer safety with CBT

Although it should be considered as a complement for traditional training methods, and not a substitute, using computers to simulate real life scenarios has become an increasingly important part of the training of seafarers.

Examples of high profile collisions, like that between the Andrea Doria and the Stockholm, have subsequently been recreated in computer form with a view to showing crew members ‘how not to do it’.

A recent International Institute of Marine Surveying conference in London highlighted the dangers of being over-dependent on electronic equipment, and failing to back up electronically provided information with physical checks.

However, as computers have become increasingly powerful and versatile, so too have the computer based training packages available. Crew members can learn how to manoeuvre a ship in a restricted port area, how to respond to a potential crisis, or how to load a vessel to ensure maximum safety.

For example, Warsaw Maritime Academy’s full mission bridge simulator has control equipment designed to simulate various vessel configurations, from single or twin screw to azimuth propulsion systems.

So, in general terms, how can computer based training (CBT) contribute to enhanced safety at sea?

According to the Nautical Institute director of projects David Patraiko, CBT brings “a valuable contribution to a blended learning strategy.”

“The obvious advantage is the use of quality multimedia, but other advantages are the ability of students to learn at their own pace and the ability to carry out self assessments,” he said.

The use of the phrase “blended learning” highlights the point that CBT should form just part of the training mix, and conventional means of training should not be ignored. However, Mr Patraiko can point to tangible examples of where CBT has contributed to understanding among seafarers where a more traditional approach may not have worked.

“There are many examples of how CBT can improve learning, but my favourite is the teaching of ship stability. An animated illustrative example of stability principles, to me, adds much to the diagrams and graphs in book form,” he said.

Clearly, as technology continues to evolve, CBT will be developing with it, with enhanced features, and more realistic simulations. While shipboard computers may not yet have the sophisticated features available to onshore simulators, this may well come in the future.

“I think that as technology continually improves, maritime CBT will benefit enormously from improved graphics, simulation, gaming technology, internet connectivity and greater user interaction,” Mr Patraiko said.

Piracy

Piracy is a potential area where CBT can be used to promulgate useful, and potentially life-saving, information.

As Mr Patraiko notes, “there is a lot of good advice available to help crews avoid piracy, though unfortunately not all of it is being taken. There is a potential, particularly by using the benefits of multimedia, to improve the application of best practices in this area.”

According to the International Maritime Bureau, over a thousand crew members were taken hostage by pirates last year, with 49 vessels hijacked, mostly by Somali pirates.

This is undoubtedly a global issue, and shipping companies across the world are eager to improve their chances of successfully avoiding pirate attacks, or at the very least minimising their impact as far as possible.

In this regard shipping companies like SCF Unicom Management Services of Cyprus, Euronav Ship Management of Antwerp, and Fairsky Shipping And Trading of Greece have all introduced CBT products specifically designed to assist crew members in dealing with piracy incidents.

These software-based systems, provided by Norwegian company Seagull, focus on issues like best practice to avoid a piracy attack, what to do if one occurs, and how to react if the vessel is overcome by pirates.

While it is self evident that no amount of training can entirely prepare you for a traumatic event – the New York-based Seamen’s Church Institute is conducting research into post piracy trauma assessment and treatment – it can at least provide preparation for crew members who may be required to go into a danger zone.

Given the number of newbuildings set to be delivered in the next year or so, as well as the shortage of skilled officers, CBT may be a useful solution in overcoming the logistical difficulty of getting crew members to an onshore training facility.

Assessing the usefulness of CBT can best be done by a company itself, with regard to its own particular needs, according to Mr Patraiko.

“The Nautical Institute promotes best practice in the use of CBT, however the measurement of its effectiveness needs to be taken on a company basis when comparing it to other forms of training and of course the costs involved,” he said.

“Trainees may also respond differently to the kind of training methods used.”

CBT online

Taking CBT online also presents additional opportunities in widening the training net to include those who may not be immedi-
Linking CBT with the internet has obviously been exercising the minds of ship managers and other trade associations as they seek to encourage young people to go to sea.

The Maritime Labour Convention 2006 is in the process of moving towards entry into force, with the support of just 30 countries, responsible for a minimum of 33 per cent of the world’s tonnage, required.

Mr Patraiko believes that CBT can play an important role in circulating information about these new rules, and helping seafarers understand what they should expect from their working conditions.

“The MLC 2006 is a vital initiative for seafarer rights, and I’m sure the use of CBT will be an awareness and understanding of the issues to the seafarers,” he notes.

The new convention consolidates more than 65 maritime labour standards developed over the past 80 years and sets more than 65 maritime labour standards.

“One question mark that still remains in the use of these systems is whether experienced seafarers will be attracted to computer based training.

However, according to Mr Patraiko CBT does offer one advantage to experienced mariners, in that they “are able to learn at their own pace, assess their competence and use the software to target updated issues or identify personal weaknesses.”

Products like the SafeCargo liquid cargo simulator, developed by Warsash and US-based MPRI, have modules which provide feedback to the trainee, which they suggest will essentially replace a supervisor or instructor.

However that does not mean that crew members should be left alone to experience a virtual learning experience. Involvement by more senior and experienced personnel, up to and including the master, is essential.

The nature of shipping means that small numbers of individuals will be grouped together on vessels, sometimes for months at a time. A good working environment and strong links between individuals is vital if they are to do their jobs, and enjoy doing their jobs.

Mr Patraiko believes that CBT can be used to contribute to relationship management, communication during the voyage, and perhaps even the complaints procedure.

“Good quality CBT has the potential to improve understanding of any subject, whether it is regulated, non-regulated or even for personal development,” he said.

“Management and leadership competencies are extremely valuable on board and CBT can play an important role within a blended learning strategy to offer improvement.”

The role of the ship’s master may conjure up a paternal image for some, but others in the industry say the role is now one akin to that of a company managing director, responsible for those on board but also ensuring close links with those ashore, with a vital training role to fulfil in both cases.

As with all companies, the managing director’s ability to “walk the talk” will be key to the success of the business.

Limitations

Despite these potential benefits, CBT as it exists today is subject to certain limitations, be they cost, availability of internet access, or the ability of crews to find time to do the training.

“I think another limitation is a good understanding of the cost/benefit models for CBT,” said Mr Patraiko.

“For many years there has been an aviation industry CBT Committee (AIOC) which is made up of various stakeholders, and now that the maritime industry is on the cusp of more CBT usage due to the growing functionality of affordable technology and industry demands for training and the management of competencies, maybe it is time to revisit such a concept.”

The maritime industry has often been unfavourably compared to the aviation industry in terms of its speed of reaction when accidents occur, and its ability to speak with one voice, to name but two criticisms.

However, it can also be said that, in certain cases, ships’ crews are subject to far more rigorous standards than those prevailing in other industry sectors, including aviation.

These include the need to be physically fit—which in some industry sectors might lead to charges of discrimination—because of the requirement, in the case of passenger ships for example, to be responsible for the safe evacuation of those aboard, with the ability to fulfil these duties with utmost dispatch.

Helping these crews to stay at the top of their game should see computer based training become more, rather than less, prevalent in the years to come, as communications, computer hardware and software improve.

However, a rounded approach to training is the key—mixing the best that CBT can offer with good, practical personal experience and leadership from the top.
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Simulation practice for Brazilian pilots ahead of port reopening

BMT Argoss, a subsidiary of BMT Group, reports that it has deployed its marine manoeuvring simulator, PC Rembrandt, to assist the Port of Itajai in Brazil ahead of its reopening to large-sized container traffic.

The port was struck by a flash flood two years ago which silted the harbour by up to 4m in some areas, and resulted in the port authority reducing the size and draught of vessels that could enter the port.

This reduction in vessel size hit the port’s revenue severely, especially at a time when the world’s shipping economy was experiencing a severe downturn in trade.

Following one of the largest surveying and dredging operations in Brazil, the Port of Itajai is once again open for business to large container vessels.

To prepare for this re-opening, a PC Rembrandt marine simulator workshop was established at the port’s offices in Brazil in order to refresh pilots’ ship handling knowledge and experience of large container ships.

The workshop lasted four days and was attended by Itajai Pilots, senior representatives of APM Itajai, MSC and the Port Authority.

The workshop provided the pilots with a simulated model of a 290m container vessel, which had been fully validated against previous ship trials data.

The Port of Itajai was recreated in PC Rembrandt using the standard British Admiralty chart and the port’s latest bathymetry and hydrodynamic data, including tides and currents, were incorporated from information gained through CPE Brasil’s recent surveying work.

Further information was added on-site in Brazil such as the port’s tug suite, which can be simulated in PC Rembrandt in vector format.

The PC Rembrandt system was managed and operated by BMT Argoss’ Southampton director Simon Burnay, with all runs and simulations conducted on the worst case scenarios to test and identify the port’s operational limits for vessels of this size.

At the end of the four days, a set of Standard Operation Procedures (SOPs) were developed between BMT Argoss and the Port of Itajai’s pilots for the safe operation and manoeuvring of container vessels of 290m and over.

“We have a strong relationship with CPE Brasil and the Port of Itajai and we are delighted that BMT Argoss was given the opportunity to deliver cost-effective, accurate and flexible on-site training to support the port’s increased capacity,” noted James Norwood, manager, manoeuvring simulation division, BMT Argoss.

“During the workshop, a full range of simulation runs were conducted with extreme environmental conditions added in both night and day modes to test the limits.”

“The information gleaned from PC Rembrandt provided all stakeholders with an extremely accurate analysis of large container operations in Itajai and we look forward to hearing the results of the Port’s first 290m container vessel visit.”

Martek introduces smoke monitoring system

Martek Marine has introduced its new Vigilant product, a calibrated funnel smoke monitoring system used to keep track of ship emissions.

A funnel smoke monitoring system measures the density of smoke using capacity monitoring techniques based on a transmitter and receiver installed on either side of the funnel. The transmitter sends a beam of light towards the receiver and the obscuration - the amount of light that reaches the receiver - is measured.

The thicker and darker the smoke, the less light received by the transmitter: very dark smoke will result in a very low amount of light or even no light being received by the receiver.

The readings are sent via serial communications protocol and-cabling to the Vigilant control system, where the software converts the signalled values to representation in terms of the Ringelmann Scale, which grades densities of smoke.

Readings can be stored by the system, and can be used by shipping companies wishing to defend themselves in the event of accusations made by authorities that the ship was exhausting black smoke in contravention of local or international regulations.

The values are displayed on an LCD display, and historical data can be recalled and viewed via the menu system, which also offers access to a range of additional parameters, such as alarms to alert operators that the smoke densities are approaching illegal levels.

As well as smoke monitoring, the Vigilant system can receive signals from oxygen analysers installed in the boiler exhausts to monitor for higher than expected levels of oxygen, which indicate that combustion in the boiler is not as efficient as it should be.

A single PC is used to control the system, with advanced versions of the system allowing all engine smoke, GPS and oxygen data to be shared with the ship’s central control and monitoring systems.

The transmitter and receiver are placed on either side of the funnel, measuring light passed through the smoke.

Navico has entered into a cooperative partnership with Consilium, to cooperate in offering new radar technology products to the maritime market under Navico’s Simrad brand.

Emerson Process Management has agreed a deal with Hatteland Display to provide type-approved computer and displays for the company’s DeltaV digital automation system.

Comark Corporation has received
American Bureau of Shipping

(ABS) Type Approval on its 15-inch series of MDU marine computers and displays. The MDU15 and MDUPC15 feature sunlight-readable or LED backlit displays, and processing options that include Core 2 Duo, up to 2.2 GHz, with up to 4GB RAM.

exactEarth has hired Albert Antoine as regional sales director for Asia and the Pacific Rim. Mr Antoine, who previously worked as a consultant on maritime domain awareness issues, will be based in Singapore and act as a local point of contact for customers of the company’s space-based AIS service, exactAIS.

Ocean Signal has announced the appointment of Mark Day as its global sales and marketing manager. Prior to joining Ocean Signal, Mr Day was European sales manager for McMurdo.

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Raytheon Anschütz has officially launched its new Intelligent Bridge System, under the name Synapsis Bridge Control, at the SMM exhibition in Germany. The system features new wide-screen, task-orientated multifunctional workstations, built using standard hardware and software for future scalability. The unit can be configured in a number of different ways, ranging from a stand-alone ECDIS workplace to a full integrated workstation that provides access to all nautical tasks such as route monitoring, collision avoidance, navigation control, status and data display or alarm monitoring.

A central change of display colour scheme and central dimming function can be processed from any workstation within the integrated navigation system (INS).

The configurations and tasks of the workstations are controlled by a newly developed Bridge Integration Platform with common interfaces to further ship systems, allowing additional applications such as automation, DP system or CCTV from various suppliers to be displayed on the workstations.

Within the INS, all data is distributed by a new dual Ethernet bus, which can be stored independently at any workstation. Access to all of the available data allows users to create their own new display pages to meet their individual requirements.

To supplement these systems Raytheon has additionally introduced a new Voyage Efficiency Monitor, which can jointly display navigation data with engine automation data and loadmaster computer data.

The company says that this can be useful in supporting the navigator in decision making, particularly with regard to rudder steering.

To integrate the operator interfaces of the intelligent alert management system and the new Consistent Common Reference System (CCRS), Raytheon has also enhanced its NautoConning display.

Within the INS, the CCRS continuously observes the availability, validity and integrity of all sensor data and calculates a quality indicator for each sensor. The Conning displays the quality indicators and provides a system wide sensor and source selection menu including a choice between manual and automatic sensor selection.

A set of the best sensor data is compiled within the automatic sensor selection mode, and distributed throughout the entire navigation system.

Synapsis Bridge Control is being joined by other new Raytheon products, such as a new adaptive NautoPilot 5000 with colour TFT and touch screen operation, as well as a new Nautosteering AS steering control system.

Based on CAN-bus, Nautosteering AS was developed to be fail-safe, with all components fitted with takeover functions and including wire break and steering failure monitoring.

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It’s time for a wave of change.

www.CapRock.com/SeaAccess

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The US Coast Guard (USCG) has issued a caution to AIS users within the Eastern United States to inform them that they may have inadvertently been operating on the wrong AIS channels.

Between July 27 and August 19, 2010, while conducting development testing of its Nationwide Automatic Identification System (NAIS), the Coast Guard inadvertently tele-commanded most AIS users transiting the Eastern United States between lower Connecticut and North Carolina to switch to AIS frequencies other than the AIS default frequencies (161.975 MHz - Channel 87B - 2087 and 162.025 MHz - Channel 88B - 2088).

As a result, those users within uniquely defined channel management regions could neither see nor be seen by vessels operating on the default AIS channels when within these regions. Similarly, vessels operating on default frequencies could not see or be seen by those vessels that were inadvertently switched to other frequencies.

USCG notes that no other AIS users or areas were impacted.

AIS operates on multiple channels within the VHF-FM marine band. This ability to use different frequencies allows AIS to be used even when the default channels are otherwise unavailable or compromised. In such conditions, authorities can use an AIS base station to tele-command shipborne AIS devices to switch to other more appropriate channels when within defined regions of 200 to 2000 square nautical miles.

This can be done automatically (and without user intervention) through receipt of an AIS channel management message (AIS message 22) or manually entered via the AIS Minimal Keyboard Display (MKD) or a similar input device.

Once commanded or manually entered, the channel management information will stay in memory for 5 weeks or until an affected vessel moves more than 500 nautical miles from the defined region.

AIS channel management commands can only be manually overridden or erased by the user via the unit’s channel (regional frequencies) management function or automatically overridden via another channel management message for the same defined region.

USCG notes that reinitialising or resetting the AIS or transmission channels will not necessarily reprogram the unit back to the default channels.

As a result of this incident, for five weeks commencing September 1st, USCG began broadcasting new channel management messages to tele-command all AIS users back to the default channels.

Beluga Shipping is to introduce the MDS system from Maris on 50 multipurpose heavy lift project carriers. The system will be used to provide the company’s Beluga Fleet Management subsidiary with modules to manage paper chart updates, and all digital publications.

“Our multipurpose heavy lift project carriers operate on routes off the beaten track of the large global flows of goods, independent from on-site infrastructure and according to the flexible principle of tramp shipping in line with the customers’ requirements,” said Kerstin Schmeding, nautical superintendent at Beluga.

“We have evaluated several programs over a long period of time and have never found this simple handling of folios together with such a completeness of the program. During the trial we have experienced great support and updates of the software, which were taking our requirements into account.”

The MDS system can be used for the updating and management of paper charts, ENCs and marine publications, as well as for weather, route and voyage planning.
ARI simulation centre commences TOTS training

www.arisimulation.com

ARi’s Simulation Product Training Centre in New Delhi, India, has announced the commencement of training programmes for Intertanko’s TOTS scheme at the facility.

Element 4 Tanker Officers Training Standards (TOTS) training and verification programmes for product, crude oil and chemical tankers, fully approved by DNV, will now be on offer at the simulation centre.

The facility will be utilising a DNV-certified Class ‘A’ Full Mission Liquid Cargo Handling Simulator to conduct the training programme, according to ARI.

“ARI’s Liquid Cargo Handling Simulator comes with a library of TOTS compliant training and verification exercises and presents an opportunity for Intertanko member companies and maritime institutes to rapidly deploy approved effective tanker competency assessment and enhancement solutions,” said Shrvan Rewari, ARI managing director.

“We are extremely privileged to be associated with this Intertanko initiative,” Intertanko marine director, Capt Howard Snauth, also added his support to the new training programme, commenting that the organisation is “absolutely delighted that ARi’s Simulation Product Training Centre has achieved accreditation to run the TOTS simulator courses.”

“This is the first TOTS accredited centre in Asia and we encourage our members to avail themselves of this world class facility,” he said.

Wilson and Gleamray to go paperless

www.shiptrans.com

Shipping companies Wilson ASA and Gleamray Maritime Inc have agreed new ECDIS deals with Transas, with the aim of introducing paperless navigation aboard their vessels.

Wilson has reached a framework agreement with Transas for the supply of ECDIS to 18 new vessels under order, as well as upgrades of the systems on its remaining fleet, which consists of 113 vessels ranging from 1,500 to 10,000 dwt.

Dual installations of Transas NaviSailor 4000 MFD ECDIS allow the ships to fulfil the ECDIS carriage requirements for paperless navigation, removing the need for paper chart back-ups on board.

Transas has already delivered dual ECDIS to two vessels under the contract, the Wilson North and the Wilson Nice.

The deal has been reached after an in-depth evaluation process whereby Wilson examined a number of different available technologies, with Nikolai Berget, Wilson purchasing manager, noting that the company’s final choice represented the most cost efficient solution that included all of the products and services the company required.

The agreement with Gleamray Maritime covers its entire fleet of owned and managed vessels, currently consisting of seven bulk carriers but with a newbuilding programme of 10 ships underway.

Gleamray has decided to proceed with these installations now to pre-empt the oncoming ECDIS carriage requirements, beginning in 2012.

Transas will supply dual ECDIS systems to the ships, as well as the Transas Admiality Data Service (TADS) which incorporates official ENCs and chart updates.

Under the contract agreement Transas will also provide ECDIS training for the entire Gleamray crew.

Romanian and Chinese AIS contracts for Saab

www.transas.com

Saab TransponderTech has been awarded contracts by the China Maritime Safety Agency (MSA) and the Romanian Naval Authority, to supply land-based and vessel-based AIS technology.

The MSA contract covers the supply of an AIS network covering six major inland waterways in China, with the aim of improving vessel traffic monitoring stations’ visibility of the thousands of vessels transiting the country’s rivers and canals.

Saab will supply some 150 AIS base stations and more than 50 system servers along the Beijing-Hangzhou Canal (also known as the Grand Canal of China), as well as the Hefengjiang, Songhua, tributaries of the Yangtze, Pearl and Haaihe River systems.

Saab had previously supplied the AIS network covering China’s coastal waters. Under the Romanian contract, Saab will supply 250 inland AIS transponders and 20 portable AIS units, to supply vessel data to electronic chart displays in traffic control centres.

Again, Saab had previously installed the Romanian River Information System (RoRIS), which uses AIS and other sensors to provide surveillance and monitoring of the Romanian portion of the Danube River and the Black Sea coast.

New AIS receiver from Comar

www.comarsystems.com

UK-based Comar has introduced its new AIS receiver, the AIS-2-2000, compatible with NMEA 2000 networks.

Installing the unit on a NMEA 2000 network allows a ship to be ‘paperless’, with all AIS messages read out and control more than 10,000 measuring points.

Comar says that it believes this new unit to be one of the only NMEA 2000 products that reads and decodes all AIS messages into NMEA 2000 format.

“With NMEA-2000 quickly becoming more accepted as the way forward in the industry the timing of this could not be better,” said Peter Cotton, managing director of Comar Systems.

“The unit is very economically priced, simple to install and includes everything you need in one small box and our distributors are already telling us we have a success story on our hands.”

Space-based AIS aids World Cup security

www.exactearth.com

COM DEV International subsidiary, exactEarth, has announced that its space-based Automatic Identification System (S-AIS) data has been used successfully by the South African Maritime Safety Authority (SAMSA) in an ongoing trial.

The data was recently used in connection with security efforts conducted during the 2010 FIFA World Cup, with Cape Town-based Marine Data Solutions integrating the S-AIS data into SAMSA’s shoreside IT vessel traffic management system.

“We’ve been very impressed with the quality of data exactEarth has provided to us,” said Capt Karl Otto, executive head, Centre for Sea Watch and Response, SAMSA.

“Our existing coastal AIS equipment has a limited range of 20 to 30 nautical miles and typically detects no more than a few dozen ships at a time.”

“During the World Cup exactEarth’s space-based system was detecting over 1,000 ships. This enhanced visibility enabled our maritime security authorities to plan days in advance rather than hours.”

According to exactEarth, SAMSA is evaluating S-AIS technology for its potential to improve safety and security by enabling authorities to monitor and communicate with ships identified by their AIS signals.

The space-based AIS data service delivers satellite-based AIS messages directly to end users. Further satellite launches are planned to take place later in 2010 and into 2011, expanding the constellation and providing improved revisit times and greater vessel detection rates.
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Kongsberg Maritime has reached an agreement with the Research Council of Norway, whereby the organisations will cooperate in the development of a user-directed research programme called SIMAR - Simulation of Demanding Maritime Operations - aimed at improving simulation training by enhancing focus on human factors.

The main goal of the research project is to obtain new and improved knowledge of human factors in a learning environment based on simulated complex maritime operations, in order to develop a new generation of research based, maritime simulators for demanding and risky operations.

The aim is to be able to assess and measure the effect of the simulator training, both in the simulator (based on the specific learning objectives) and during actual maritime operations (such as reduced risk, reduced number of accidents, reduced costs related to loss of equipment and more efficient operations).

To achieve this, the project has defined 4 sub goals: Defining and developing human learning objectives based on relevant IMO Model Courses, as well as Bridge/Engine Resource Management training and Bridge Team Management training. The uniqueness of the NavSkills solution lies with the second part of the package, which is a service contract,” said Mads Fris Sorensen, branch manager at Furuno Copenhagen.

The service contract covers the provision of approved training materials, education of the local instructors and the assessment by DNV SeaSkill of the training courses to be conducted by the NavSkills customers locally.

“It is a kind of turnkey solution, which enables the ship owners or training centres to provide DNV SeaSkill-certified training courses from day one. Furuno will, as part of the service contract, handle the issuing of certificates to the trainees.”

SIMAR is exploring new ground for the maritime industry. “We are convinced that the cooperation with the Research Council of Norway and our R&D partners will contribute to the development of the best tool for the future training on demanding operations.”

The task of defining and developing human learning objectives based on relevant parameters available in a simulator will primarily be carried out by Chalmers University of Technology, as Margareta Lützhöft, Docent at Chalmers University of Technology, Institution for Shipping and Marine Technology, department for vessel world environment and safety, Gothenburg, explains.

“At the institution for Shipping and Marine Technology and in the competence centre, Lighthouse, we have developed competence for research and development work within many maritime fields,” she said. “SIMAR gives us a unique possibility to practice our knowledge - both employees and students - to improve maritime education and safety at sea.”

Universities in Vestfold and Oslo will work in cooperation on the project, and will be responsible for performing research on the education process in the simulator based on knowledge of mechanisms and methods in education.

Testing of new training exercises, based on competence of educational mechanism, will be executed at the simulator centre at Vestfold University College, as noted by Marius Inset, Institute leader at the Faculty of Technology and Maritime Science at the University College in Vestfold.

“Knowledge on how new information technology and instrumentation can contribute to increased safety and efficiency within the maritime sector is a priority area for us at Vestfold University College,” he said. “We perform research on how human factors work together with technology and organisation, and the use of advanced simulators provides new and exciting possibilities.”

“Our cooperation with Kongsberg, the University of Oslo and Chalmers is unique, as it brings together different world-leading communities on complex maritime operations. We are proud to contribute to the SIMAR project, which will bring out new knowledge with the purpose to increase safety, efficiency and improve the use of energy.”

Training packages introduced by Furuno

Furuno has launched a training and simulator solution called NavSkills, which aims to offer ship owners and training centres a full package of the services required to offer compliant training to navigators.

The system consists of a full mission training simulator with ECDIS planning stations, using real equipment for the bridge and planning stations to make usage more realistic.

The simulator offered is approved by DNV SeaSkill as class A or S, depending on the selection offered by the ship owners or training centres.

The training package includes DNV SeaSkill-certified ECDIS training and the DNV SeaSkill-certified IBS/INS Operator training course (both in compliance with the relevant IMO Model Courses), as well as Bridge/Engine Resource Management training and Bridge Team Management training.

Preliminary steps have been completed to provide NavSkills training packages for several specific training courses.

NavSkills offers large possibilities and the potential to provide customers with training packages where they can offer first-class training on new and well-tried simulators for very demanding operations.

New launch from ChartCo

ChartCo has released PassageManager, a new addition to its oceanMaster software package.

The new application is a passage planning and product management tool used to organise, purchase and update all paper and electronic charts, in real time.

Port, weather and tide information is also included, as well as Chartist Co’s full range of products, which removes the need for the mariner to have to rely on any one data supplier.

The mariner can use the software to plot a route and identify the most appropriate products needed to navigate the passage. New products can then be ordered according to the most cost-effective mix of paper and electronic charts and publications.

The ports database, supplied by IHS Fairplay, offers data on 10,000 ports and terminals as well as 23,680 port service providers, which the company says can prove useful in planning port calls.

Port maps and plans are also available to assist in docking scenarios, while a daily news service informs users of critical required information.

“This (system) will provide mariners with not just navigational data, but product management which will significantly improve their ability to sail safely and cost efficiently,” said Rory Davis, ChartCo sales and marketing manager.

“PassageManager is a superb tool for managing the mix of paper and electronic data now found on a vessel and it comes at no extra cost to the subscriber.”

ECDIS package introduced by Kelvin Hughes

Kelvin Hughes has launched its new ECDISPLUS service, which aims to provide a package of services for those installing ECDIS systems on board their vessels.

This includes the supply and installation of the ECDIS hardware, initial supply of an ECDIS chart data, chart data management services and ChartCo updates.

A new Outfit Management Service (OMS) is also included, a system used to manage the supply of data to the vessel through the ongoing monitoring of vessel movements and changes to ENC coverage.

Kelvin Hughes fully supports the IMO in the move towards mandatory ECDIS, and we’re pleased to be able to launch ECDISPLUS,” said Kelvin Hughes CEO, Russell Gould.

“Through ECDISPLUS, Kelvin Hughes can provide end users to make ECDIS easy and compliant and help customers make the journey from paper to electronic navigation. Kelvin Hughes’ ECDISPLUS provides a single-point solution, one that we are confident will change the infrastructure for navigational data and how it is used.”

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Vessel monitoring tools from Wärtsilä

Wärtsilä has launched a new Propulsion Condition Monitoring Service (PCMS), designed to provide real-time data and advanced analytics on the condition of a vessel's propulsion equipment.

The new system, adapted from the remote monitoring architecture Wärtsilä developed for its engine monitoring service, combines sensory data such as vibrations, pressures, and temperatures with the operational parameters of the propulsion equipment, such as pitch, steering feedback and set points.

In addition, it takes into consideration nautical parameters like vessel speed, and rate of turn and draught, thereby providing the ability to relate sensory data to the actual operating conditions.

The system has been developed to detect the operational states of the propulsion equipment through real-time comparisons of parameters from multiple sources, and is claimed to be the first commercial product to measure vibrations on the inside of thrusters using sensors located right next to bearings and gears.

A PCMS Advisory Monitor is included in the onboard equipment, which gathers and provides information from all the PCMS cabinets on the vessel.

Data collected is then transmitted daily to Wärtsilä Propulsion Services, where the information is analysed. In the event of irregularities, the system immediately notifies a Wärtsilä propulsion specialist as well as the owner.

“Wärtsilä is the first company with a propulsion monitoring product that is able to measure up to 16 accelerometers continuously and simultaneously,” said Frank Velthuis, system development expert, propulsion services at Wärtsilä.

“This enables us to capture all events that may lead to problems, and to know exactly when and why they occurred.”

In other news, Wärtsilä has also launched its Wärtsilä Communication and Control Centre (Wärtsilä 3C) solution, which aims to integrate a vessel’s entire control system.

All relevant ship’s controls and alarms are integrated into the system, to be accessed with a common interface.

The system aims to integrate with navigation solutions, and leverage route planning, optimal engine configuration and decision support tools to increase the vessel’s fuel economy and reduce the maintenance requirements of the ship’s systems.

“With Wärtsilä 3C, Wärtsilä can now provide, manage and guarantee maintenance for the full scope of all ship operating systems, which further strengthens our position as the industry’s leading systems integrator and solution provider,” said Aaron Bresnahan, vice president, special vessels, Wärtsilä Ship Power.

“The Wärtsilä 3C is the nerve centre for the vessel, and will definitely simplify operations. It also adds features, maximises the ship’s power efficiency, and extends its lifecycle.”

KVH

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50 newbuild orders for SAM

SAM Electronics has secured new orders to outfit 50 vessels under construction at yards in China, Germany, Italy, Korea, Netherlands and the Philippines with its new range of NACOS Platinum integrated navigation and automation control systems.

The NACOS Platinum range is built using standardised hardware and software components in a networked architecture.

Among the vessels being equipped, all of which are due for delivery in 2011 and 2012, are 10 new Germanischer Lloyd-classed 142,500 dwt container ships being constructed by Hyundai Samho Heavy Industries, Korea, on behalf of Bernard Schulte/Peter Doehle. Others include six gas tankers for Hartmann Reederei and a similar number of bulk carriers for SCI Shipping Corporation of India, which are being completed by Dajiang Shipbuilding, China, and STX Shipbuilding respectively. Other newbuilding types to be fitted with the systems are ro-ro ferries for Nordic Ferries, a dredger for DEME Dredging, a megayacht for an undisclosed owner and a series of new-generation cruise ships for Carnival Cruises and Aida Cruises.

The NACOS Platinum range of modular vessel control systems has been newly developed by SAM together with its associate companies, Lyngsø Marine of Denmark and L-3 Valmarine of Norway.

Sperry launches monitoring and control systems

Sperry Marine has launched a new generation of marine alarm, monitoring and control solutions, under the VisionMaster brand.

Offered in two basic configurations – VisionMaster Alarm Management System (AMS) and VisionMaster Machinery Control System (MCS) – the systems are based on commercial-off-the-shelf industry-standard components.

A dedicated redundant-switched Ethernet local area network is used to provide complete field-to-server data links, with the Ethernet ring structured around two servers to provide redundancy for control and monitoring of all subsystems.

The open architecture permits the connection of monitoring stations anywhere in the vessel, and uses thin-client technology to allow for expansion with new fixed and mobile workstations on the network.

The VisionMaster AMS and MCS solutions are designed to provide an easy ‘drop-in’ replacement for legacy machinery automation systems, as well as newbuilds, with serial interfaces to the sensors on diesel engines from most major plant manufacturers,” said J Nolasco DaCunha, vice president of Northrop Grummans Sperry Marine.

“They can be installed as stand-alone alarm, monitoring and control solutions, or integrated with the Sperry Marine VisionMaster FT integrated bridge systems.”

In other news, Sperry Marine has also opened a new ship navigation training centre in Charlottesville, Virginia, to provide a range of navigation courses, including computer-controlled classroom training and a full ship’s bridge simulator.

Courses include operation, maintenance, trouble-shooting and repair of shipboard systems. The facility is expected to serve approximately 750 students per year.

Outside of the new facility in Charlottesville, Sperry Marine operates similar training centres in the United Kingdom and Germany.

Additional ECDIS training for Singapore Navy

ECDIS Ltd reports that it has delivered an ECDIS Quality Control training course to the Singapore Navy.

The course is designed for advanced and experienced users of ECDIS, who have reached a position of quality controlling the standards of their ships’ navigation.

"Besides the excellent infrastructure and first-class set up, what impressed me most was the professionalism of the staff,” commented LTC Terence Ho, head of sea riding and audit branch for the Republic of Singapore Navy.

"In addition to the deep expertise and experience that one can only get from years of practical experience, their openness to share was a refreshing difference from many of the commercial ECDIS courses available.”

Mark Broster, managing director of ECDIS Ltd, noted that his company has been pleased to see maritime organisations looking to develop higher level navigation skills among their crews, and taking advantage of the latest electronic systems.

"It was a pleasure to work with experienced navigators eager to transfer their skills into the digital age,” he said.

"It is our aim to help take their level of ECDIS knowledge to the next level. We have found that many fleets, both commercial and military, proudly promote the idea of high standards of navigation training. It is great to see that the Singapore Navy are seeking to take their ECDIS knowledge to the highest and safest level.”
verseas Shipholding Group (OSG) is currently in the process of completing the full rollout of a management data technology project to its two international fleets, managed from its offices in Athens and Newcastle, totalling 54 vessels.

This is the culmination of an implementation process that started back in 2007, when OSG decided to embark on a project that would allow for digital data from vessel engine rooms to be streamed ashore, promoting the possibility that the data could be used to assist in the day to day technical management of the ships.

This project also included digital management of environmental tags, fitted to pipes and flanges throughout the oily water separator system, that would greatly enhance the audit trail and simplify audit inspections by third parties.

Under the project OSG, engaged Datatrac, a data capture technology company based in the UK, to fit its Electronic Engine Room Log and Envirotrac products, which were then at the prototype stage of development, on a trial ship for assessment.

That initial trial installation has since been extended fleetwide, with OSG also adding training systems for the technology at its training centre in Manila and manning offices in Croatia and Russia, where crews are able to either have initial or refresher training before tours of duty.

**Onboard system**

Each OSG vessel is equipped with two ruggedised Palm Pilot handheld computers, adapted by Datatrac to read contact memory electronic tags.

Two versions of the tags are issued. One is a low capacity tag used purely to identify its own serial number, with the second type being capable of having pre-programmed information on it.

Two software programs are also provided – Asseract, which runs the Electronic Engine Room Log, and Envirotrac.

Envirotrac manages the vessel’s environmental control log whilst Asseract is used for gathering and storage of data from the engine room machinery and equipment.

The objective of Envirotrac is to provide a digital log for use in external and internal audits, that shows when and why environmental tags, placed on each accessible junction point on selected pipes in the engine room, have been changed.

A contact memory tag is permanently attached to an environmental tag and is pre-programmed with the latter’s serial number. This tag is issued by the master and affixed to selected pipes in the engine room by the Chief Engineer.

This fact, and every time the tag is checked, is recorded in the software by reading the tag with the reader and then synchronising with the computer.

The software provides all the reports required for audit purposes and a daily snap shot of them is uploaded to the web for shore side management purposes.

Using the same hardware as Envirotrac, Asseract tags are placed at strategic points round the engine room adjacent to where readings are taken to fill out the daily log.

The engine room watch keepers complete their rounds as normal; however they enter the data into the handheld reader by ‘touching’ the tag.

The handheld reads the ID of the tag and converts it into a location. This location cues the operator to take the readings allocated to that point by answering questions generated on the handheld.

On returning to the engine control room the data is then downloaded to the PC and into a database.

The engine room log is shown on an Excel spreadsheet, which is automatically updated with the new data. Datatrac says that Excel is used as it enables universal manipulation of the data collected.

On a daily basis the data from the last 24 hours is sent ashore and displayed on a secure website, so that shore managers can view the engine room log from the previous day, as well as any engine room remarks.

**Data analysis**

All data from vessels is transmitted ashore during ship communication periods and stored. This data is accessible on the website by the vessels’ Superintendents, via a security control system.

Data can be viewed either in a tabular form or a graphical representation.

For example, items such as total HFO IFO consumed per day can be viewed in a table in relation to the time that the reading was taken (such as the ‘watch’ in which it was recorded), and then displayed in graphs with moving average and trend lines interpolated from the data.

Limits for the data (set via the ‘user’ feature on the website) can also be displayed on the graph, with the high and low limit for that data item indicating whether or not the data is within permissible limits.

Though still in the early stages of implementing this technology, Datatrac says it is also currently providing systems to monitor selective data, which provides a range of ‘streaming’ information.

When analysed, the company suggests that this could help to provide more efficient operation plans, and hence a reduction in running costs. It may also be possible to predict maintenance schedules, notwithstanding manufacturers’ recommended intervals.

Datatrac notes that, as the interpolation of the data is quite complex, it is continuing to investigate this area of data analysis to introduce extended added value to the systems for OSG.

**Implementation**

To implement the system onboard ship Datatrac provides an engineer to install and initially train the ships’ crew in the use of the programs. This process takes approximately 3 or 4 days.

This process has required both Datatrac and OSG to be flexible, but Datatrac says that acceptance by the crew of the products and the training they are given has been key in making the project a success to date.

The crews have reportedly responded well to the training provided to learn how to operate using the technology, despite them, on many occasions, having to find time in their busy work schedules to learn the system.

This has also helped to ensure that the system is configured and installed in the optimum way for the specific ship, according to Datatrac.

The basic install template for vessels requires alterations due to the fact that vessels differ in many minor ways. Crew knowledge has been fundamental in these changes, and has also led to modifications in Datatrac’s design of the products to provide custom adjustments for user environments and overall operations.

In particular, the Engine Room (paper) log, which was a generic type log, was converted to Excel, but over the last three years has been subject to many changes to convert the generic information into a more concise version of what is recorded.

Any amendments and modifications to the system can be sent to the vessel via e-mail, saving on time and logistical issues and reducing the impact on the day to day operation of each vessel.

Without the crews’ feedback and core knowledge this would not have been possible. Datatrac expects that further changes will also emerge over time, as equipment changes and technology advances.

Shore support for the system is also provided via e-mail, which has been vital in ensuring the continuing operation of the Datatrac system onboard OSG vessels.

The company says that the ships’ crews have responded well to this form of support, and have adjusted to any delays in support exchanges due to the sometimes interrupted nature of ship-to-shore communications.

Following these implementations, and despite what Datatrac describes as a slow start, crews aboard the OSG fleet are now operating with a high-level knowledge of the system, reducing support issues and allowing OSG to reap the benefits of its data management technology.
Taking control of your training

With the availability of spaces in maritime training facilities set to be squeezed over the next few years, particularly with regard to ECDIS courses, Hanseatic Shipping Philippines told Digital Ship about how it found an alternative option - building an in-house simulator centre

Improved safety is obviously one of the ultimate goals of installing the latest digital navigation systems.

The introduction of mandatory carriage requirements for ECDIS is a good example of this, where a 2007 DNV report which pointed to how the use of the technology could reduce the frequency of groundings on major routes by up to 38 per cent was presented to IMO and used to support the introduction of these systems across the global fleet.

However, with ECDIS as with every other type of bridge system, any potential improvements in safety presuppose that the operator has the equipment competent in its use.

Expecting navigators to be responsible for the safety of a vessel while relying on systems with which they are not comfortable is a recipe for disaster – evidenced by the variety of accident reports citing technology-assisted collisions and groundings.

Therefore, training then becomes key to the successful introduction of these technologies. However, training academies are set to be stretched to their very limits as mandatory training on new systems, such as ECDIS, will require tens of thousands of hours of additional classroom time.

Appreciation of these potential future difficulties is now pushing some companies to look at introducing their own in-house training centres, to take control of their own needs in a way that suits them and their operations best - helping to optimise the availability of crew and ensure quality standards across the fleet.

One example of this is crew management company Hanseatic Shipping Philippines, which has initiated its own facilities in Manila to train crews that will serve aboard the approximately 110 vessels with its seafarers onboard.

This training centre features two full mission bridge simulators, with five and three visualisation channels respectively, and a full mission engine room simulator, with two models. All of the simulators were provided by Transas.

Hanseatic’s journey towards the opening of these facilities dates back approximately five years, as Ioannis Tzanos, financial advisor, Hannseeat, explains.

“In the early stages, we purchased CBT (computer based training) materials, but later, around 2005, we realised that practice together with the theoretical knowledge is the best way to move forward in the future,” he told us.

“We had continuous meetings and communications with our Principals and around 2006, with their financial support, we decided to set up our own simulator facilities.”

“Our main reason was to improve the theoretical and practical knowledge of our crew. We wanted to further enhance their competency in both areas and be able to meet the challenges of the 21st century.”

Hanseatic had become dissatisfied at the competence levels it was seeing in some of the seafarers it was recruiting that had attended a variety of different institutions, and was determined to improve the skills of those that would serve on its ships.

“We found that the educational or training background of the seafarers was not of a level that met with the expectations of our Principals,” said Mr Tzanos.

“So, by creating an in-house training facility which would be under our control, we saw that the benefits could be immense. We would be able to identify the strengths and weaknesses of the seafarer and be able to act on them appropriately.”

Training programmes

The training programmes conducted by Hanseatic at its facility fall within two major areas, as Mr Tzanos explains.

“We have official training, where our office can provide training to our crew according to (Republic of the Philippines) Maritime Training Council procedures and requirements,” he said.

“For the deck crew, we offer the SSBT (Ship Simulator and Bridge Teamwork) course and, for the engine crew, the ERS (Engine Room Simulator) course. The local government offices have accredited said courses.”

“Secondly, our training centre has also been accredited by the PRC (Professional Regulation Commission of the Philippines) to carry out licensure practical examinations.”

For the SSBT and ERS, the official courses, the trainees have to remain at Hanseatic’s training facilities for five days, completing a total of 40 hours of training. For in-house programmes, sometimes specified by the company’s Principals, the same five day schedule is also followed.

“However, for the in-house training courses adjustments are made in accordance to the needs of the trainee,” said Mr Tzanos.

“For example, if the trainees for the bridge course consist of new applicants, we focus more on the familiarity of the equipment, as well as basic seamanship such as steering and finding the position of the vessel.”

“If our training instructor notices that a trainee needs extra training, he is advised to return in order to improve his knowledge on a specific area. This is done on a case to case basis.”

Mr Tzanos notes that the content of the courses is constantly evolving, and needs to be frequently updated to keep up with technology trends.

“In the last 10 years, new rules and regulations have been introduced in the international shipping industry, and the various equipment on vessels is getting more sophisticated and complex,” he said.

“Thus, by having the in-house training facilities, our office can gauge the weaknesses in the knowledge of our crew.”

“We are able to then not only offer the official courses but also our additional in-house courses, to further tackle any weaknesses and equip our crew with the additional knowledge to help them overcome the new challenges ahead.”

The company is also in constant communication with its Principals to gauge any particular areas which they feel might require a greater training emphasis, and learn about any new systems that are being introduced.

Mr Tzanos says that this is growing in
importance as digital bridge systems become more prevalent.

“The latest generation of seafarers are more dependent on the navigational equipment of the vessels,” he told us. “The introduction of electronic equipment such as ECDIS and AIS is very helpful and useful, but can also take away the ‘independent’ thinking of the seafarer.”

“With our in-house training facilities we can assist them in following good practice on the electronic equipment, but can also train them to navigate the vessel without the use of the electronic equipment.”

“We do find that the latest generation has an easier time in understanding the new equipment and the obvious advantage is they can be trained in a shorter amount of time as they are also eager to learn. The disadvantage is that they rely too much on the equipment and if an unusual or unexpected situation arises that requires them to think ‘outside the box’, they find it difficult to make a proper decision.”

All of these training programmes are provided free of charge for the crews – removing any financial burden from the seafarers, whom Mr Tzanos believes helps in producing well-trained and loyal crewmembers.

Using simulators

Mr Tzanos is a firm believer in the benefits of simulator training, with Hanseatic so far having been impressed with the results of using the technology.

“The practical knowledge, especially for the young graduates, is limited, but with the use of the simulators the crew is more confident in their ability to navigate the vessel,” he said.

“It creates a good familiarity with the equipment onboard, and this creates good and harmonious working conditions onboard.

This extends to a variety of different bridge systems, and, despite ECDIS being one of the key training areas ahead of the 2012 regulations, Mr Tzanos says that the company is careful not to focus too heavily on one piece of equipment.

“In my opinion, all the pieces of navigational equipment are important – from the use of the steering and the communications for the new graduates, to the more complicated equipment such as the ECDIS and GMDSS for the officers,” he told us.

“Yes, we have already started familiarizing the crew with the use of the ECDIS equipment in our in-house training programme, and our instructors have undergone training on the use of ECDIS equipment and we hope in the future, to accredit the course with the local government offices.”

“However, each piece of equipment on the bridge and in the engine room serves a specific purpose, with the final outcome being the navigation of the vessel safely and efficiently.”

With this in mind, Hanseatic is keen to investigate ways in which it might add to its use of simulation technology and continue to make its training courses as comprehensive as possible.

“Shipping is an ever evolving industry. We are always assessing the needs of our Principals in order to ensure that the crew being deployed are equipped with the latest knowledge in running and managing a vessel safely and efficiently,” said Mr Tzanos.

“We always want to improve our training standards and ensure it is up to date, so in the future we are planning to purchase additional model vessels and ports from Transas to provide an ‘actual’ understanding of the peculiarities on a particular type and size of vessel, and offer exposure on different ports.”

“We then hope that we can be accredited by the local government offices to offer additional official courses, such as ECDIS, GMDSS and Ship Handling.”

Industry trends

Hanseatic’s investment in its own training facility, while maybe not yet typical, is indicative of a slowly growing trend in the maritime industry. Transas says that it is now doing one or two such projects each year, and that expressions of interest in the feasibility of building a centre are at a much higher level than a few years ago.

Bjorn Rohlich, training manager at Transas Germany, believes that there are four main reasons why a company might adopt such an approach.

“Number one is that you need type-specific training for ECDIS, and sometimes it might be hard to find a training centre for your specific ECDIS manufacturer. In that sense it would be easier to train your people in your own facility with the same equipment they would find onboard,” he told us.

“The second reason is the required standard you want to reach. If you have your own training you will know that everyone is getting the same level of training.”

“The third reason is standardisation, as they will know exactly what coursework is being used for all training, and the fourth reason is availability, so they can allocate training slots in the optimum way together with their own crewing department.”

Of course, these reasons will only come into play if it makes financial sense to invest in in-house training. In this regard Transas believes that the systems are becoming relatively more affordable, particularly when considered against the future training needs of the company.

“They are still expensive but are becoming affordable because we are using commercial off the shelf hardware, and the investment is not so big that you need public or governmental money to do it,” said Ralf Lehnter, managing director, Transas Germany.

“Seafarers are now given extra money to do it, so we have one customer in Spain for example, a medium sized company running eight tugs, and they have established their own simulator centre.”

“For them the investment was about €300,000, but the headquarters, where the training centre is, is only 50 metres away from the main port where the real ships are, so the real captains can come inside for some special manoeuvring training on the simulator, try it out, and five minutes later be doing it for real.”

Another example is Reederer NSR, a German company operating a fleet of about 100 containerships, as well as a number of tankers, which also invested a substantial sum in its own facilities.

“Although we were not the suppliers in that case, we were involved, and they invested approximately €1.5 million for an engine room, large ship handling, and liquid cargo handling simulator,” said Mr Rohlich.

“They use it not only for training and assessment of their own crews, but also as a way of getting all of their crew back to the headquarters once a year, which is not the case in many companies.

So for them it helps with company spirit and showing their own employees that the company is interested in their safety, and in their future.”

“Intership Navigation is also running its own simulator out in the Philippines, we just did an upgrade so that the onboard simulator and the shore based one will match together, so they will have the same technology and exercises.”

Mr Lehnter notes that the kinds of sums involved are only a fraction of what might have been required just a few years ago.

“This kind of thing was impossible ten years ago, it would have been a €2 million investment, which they could not afford, he said.

“It’s still a costly exercise, it costs money to run the facility, but again, compared to 10 years ago it’s now affordable.”

Availability of training

Another motivating factor for companies that are looking at in-house facilities is the potential problem in securing places at training academies in the future, particularly for ECDIS training ahead of the mandatory carriage requirement which Transas says will be a number one in any training discussions.

“Everybody is saying that up to 250,000 nautical officers will need to be trained by 2018, but there are some market investigations which have suggested that the training capacity, per year, might be between 20,000 and 25,000,” said Mr Lehnter. “So you can count for yourself and see that it won’t be sufficient.”

“One of the biggest problems with this will be when people try to make up for this with ‘cadet factories’, like we have seen in the Philippines. You cannot run an ECDIS course and get people to the required level of proficiency if you have 20 people in the classroom.”

“They might pass the exam, but there won’t be proper attention as to how they are learning how to deal with the safety risks involved. We recommend a maximum of eight trainees. If you count that then the training problem would be even worse.”

Mr Rohlich suggests that this problem is only likely to deteriorate, and that shipping companies need to start thinking about their future requirements now, to avoid potential problems further down the road.

“Some are looking ahead and are already looking courses and partnering with training centres they have been working with over the years, but building a training centre is a real option, maybe together with another shipping company,” he said.

“Building training ships is another option, where you can teach cadets onboard, and we have two companies (Intership Navigation and Spliethoff) which have built two bridges on ships, one on top of the other, for training.”

“In any event, training in the use of these systems is not optional. The regulations are here to stay, and in Mr Rohlich’s view the price of ignoring crew competence could be very high indeed.”

As he notes: “One untrained officer can create damage that will cost more than all of the training of your whole fleet would cost. It is that important.”
**Comment**

Dude, you can get YouTube on the ECDIS!

Since early this year, ships running at least one make of ECDIS can download navigational charts and chart updates at sea, via internet download. OK, last year’s wreck won’t show up on ENC updates from hydrographic offices for another two or three years yet anyway, but this is progress, dammit. Don’t question it.

DNV’s OK’d it, as well. They will type-approve an ECDIS that uses internet connections for updates, provided a) there is a firewall, b) there is an anti-virus strategy, and c) there is an electrical internet kill switch. Of course, all of this assumes that the greatest threat is from outside.

I’ve heard from more than one source that this is not the case.

One major shipping company had an ECDIS crash because the officers were using it to surf the internet while en route (perhaps they were studying the company’s HSE policy online). The firing manager said that they would fix this by allowing the machine to access only one URL, that of the chart update provider.

Is it a shock to imagine an officer bored out of his mind jimmying the ECDIS to serve him YouTube videos?

To me it wouldn’t even be a shock to hear that the flight crew of an airliner overflew their destination because they were tweeting about Justin Bieber. Better than arguing about airline policy – that than arguing about airline policy – isn’t it?

One major shipping company had an ECDIS crash because the officers were using it to surf the internet while en route (perhaps they were studying the company’s HSE policy online). The firing manager said that they would fix this by allowing the machine to access only one URL, that of the chart update provider.

A reality, you think?


dude, you can get YouTube on the ECDIS!

There’s a fear of technology at work here. It’s the same kind of thing that led employers ten years ago to hesitate to give their office workers internet access.

It’s alive today when they cut off access to YouTube, Facebook or Skype (I was told by one executive that his company wouldn’t let him use the last one because “it’s free and it works, unlike our enterprise solution.”)

Hell, give seafarers internet connections broader than the New Jersey turnpike, if they want. If they can’t pull it up on the ECDIS, you can be sure they’re going to pipe it into their iPhones or Androids.

The fact is this: They might be looking at porn and strike a bridge. They might also access countless tools to make them even better and more accountable officers. The internet doesn’t kill people (not usually anyway).

The fellow running the IMO’s e-Navigation working groups told me they’re putting the focus on what they call a “single window”.

Let’s not split hairs here; that’s the ECDIS. This window’s going to be full of good stuff, and soon. It’ll be up to every marinier to use it as he likes. In fact, I hope that seafarers come equipped with their own system in the future (like Norwegian pilots).

Imagine when a master can just show up with her ECDIS under her arm, plug into any ship and she has everything in the digital and physical world she needs, right there. A reality, you think?

Ryan Skinner
http://5956n.typepad.com

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**New version of bridge workstation introduced**

Kongsberg Maritime has released a forward looking bridge version of its K-Master workstation, which allows for control of navigation and manoeuvring from a single seated workstation, with systems such as propulsion, chart radar and compass display all integrated.

Further sub-systems like Dynamic Positioning, an independent DP joystick, thruster control, machinery automation and cargo control, and bridge auxiliaries can all be included in the system.

“K-Master was originally conceived as an intuitive, safety and efficiency enhancing control solution for more complex offshore operations such as anchor handling,” explains Roy Larsen, marketing manager, Kongsberg Maritime.

“However, the concept of a seated operator with all systems on-hand naturally transfers to other applications, so our engineers have re-designed K-Master to make it suitable for forward bridge operations.”

The design of K-Master is based on human factors and ergonomics research carried out by Kongsberg Maritime over the course of several years.

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**Polarcus vessels to install positioning systems**

Polarcus has been awarded a master services contract by Polarcus, a Dubai-based 3D seismic survey company, for the supply of positioning services and equipment in support of a new fleet of Ulstein-designed vessels. Under the contract, Veripos will provide each of four new Polarcus vessels with a combination of its Ultra Precise Point Positioning global service, together with LD2-G2 integrated mobile receivers and Verify QC software for real-time monitoring. The first two 12-streamer vessels, Polarcus Nadia and Polarcus Naila, are already operating in the North Sea, while the Polarcus Asima, an Arctic-ready 12-streamer vessel, has been recently launched and will work initially in the Black Sea.

Polarcus Samur, a new environmentally-responsive vessel, is due to be provided with Veripos GNSS positioning support later this year.

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Dude, you can get YouTube on the ECDIS!
Arising from inappropriate actions. However, accidents almost always require their attention. In general, alerts – the generic name for alarms and indications – are essential to inform users of problems with systems and machinery that are out of sight and normally operating satisfactorily. Many such systems do not need continuous monitoring of performance. Action is typically only required when an alert is generated.

However, navigational alerts are rather different in concept. Through simple checks, for example by calculating whether the closest point of approach (CPA) of a radar or an AIS detected target is less than a preset limit, or if appropriate use of ECDIS was being made, then these alerts would be superfluous. In fact this is not the case. In reality, things can go wrong for a variety of reasons and so user vigilance is always required, even with the present ‘state-of-the-art’.

### Alert reliance

So why can’t ECDIS alerts be 100 per cent relied upon?

The first possibility is that own-ship parameters and aspects such as safety contour depths may have been incorrectly set up on the ECDIS or inadvertently changed. Good ship procedures should be able to eliminate occurrences of this, but things can occasionally go awry, making it by far the most common possibility of inhibiting the generation of critical automatic alerts.

A second possibility is that the supplied ENC data could have deficiencies that affect the correct operation of alerts on geographically specific objects. Another possibility is that the supplied ENC data could have deficiencies that affect the correct operation of alerts on geographically specific objects. Another possibility is that the supplied ENC data could have deficiencies that affect the correct operation of alerts on geographically specific objects. A second possibility is that the supplied ENC data could have deficiencies that affect the correct operation of alerts on geographically specific objects. A second possibility is that the supplied ENC data could have deficiencies that affect the correct operation of alerts on geographically specific objects.

A further possibility is that the actual ECDIS in use may not correctly alert under all conditions. This could be due to an isolated fault or even a design fault that affects all ECDIS equipment of the same type. ECDIS designers have to undertake extensive independent type approval tests. These are generally very effective at detecting faulty operation but occasionally less obvious deficiencies can pass unnoticed.

A further possibility is that the standard applied to ENC data and ECDIS equipment may be insufficiently defined. Despite being very detailed and arising out of painstaking work by international committees, not all relatively obvious cases of data and equipment interaction may have been completely taken into account.

### Route planning

Unfortunately the over-reliance on ECDIS can be taken even further. In particular, these alerts could be be superfluous. However, accidents always arise from inappropriate actions. Steering

Also, any tendency to give undue reliance to the apparently indicated safe situation perhaps detracts some users from spending appropriate time in gaining their own situational awareness. The situation is rather different to when using navigational alarms on radar, such as CPA and new target alerts. From their own experience users are aware that radar data can sometimes be unreliable and therefore due caution is typically given to all such data.

### Route planning

Unfortunately the over-reliance on ECDIS can be taken even further. In particular, some users may consider that route planning is totally simplified because ECDIS can be set to examine the planned route and give alerts for all charted information that is a potential hazard to own-ship. Of course, the automatic route checking facilities on ECDIS should be used and can be very useful in indicating if anything is amiss with the planned route. However, it is essential to manually verify the safety of the route before the automatic facility is activated.

Manual checking should be performed on the largest scale ENC’s that the route crosses. This importantly provides the necessary familiarisation of the route, while not greatly undue reliance on the automatic checking facilities of ECDIS. However, a final check should be made using the automatic facility. It should provide evidence of anything missed during the manual check – in which case the user should feel suitably chastised.

Unfortunately, a major problem with this is that the automatic process will almost certainly tend to be very cautious and will generate many superfluous alerts. Each one needs checking, which on some systems can be quite tedious, perhaps giving rise to important alerts being missed.

It should also be noted that, in some instances, it is possible that alerts will not be generated. In which case, it is likely that the same alerts will not be generated during passage execution, underlining the need for continual monitoring of the displayed chart data.

### Manual checking

Even when manually checking the route on small scale ENCs it appears to be easy for important isolated dangers to be missed. For instance, it has been reported that there are examples of point features being obscured on some equipment by depth contour numerals. ENC’s for ocean regions are typically at a scale of 1:3,000,000. A feature, even of 1NM dimension, would have a scale size of just 0.6 mm. This perhaps explains the difficulties that have to be overcome when using such charts to avoid these dangers.

To improve the visibility of isolated dangers on small scale ENCs it has been suggested that textual information should be turned on. This provides additional visual indication of these hazards and appears to be an excellent practice. It does, however, highlight a present deficiency, either in the availability of suitable scale ENCs or else in the standards concerning the display of isolated dangers when larger scale charts are not available. However, if ECDIS is used properly none of the problems highlighted here prevent its safe use.

Users have to develop an ECDIS mindset. Its strengths and weaknesses differ substantially from those of paper charts. In particular, as with all current navigational equipment, reliance on automatic alerts is not good practice, even though they provide a useful backup in cases of poor vigilance.

### Real examples

An example of data deficiency is perhaps the realisation by the International Hydrographic Organization earlier this year that a small number of shal soundings had been coded into ENC data in such a way that they would not trigger alerts. They would also not appear on the display when the ECDIS was switched to the Base or Standard display modes. Hydrographic Offices around the world have been busy correcting this anomaly and many have now confirmed that all their affected ENC’s have been corrected. In fact, the fundamental reason for these anomalies probably arises from some lack of clarity or other deficiency within the data standards.

A very recent example of some ECDIS units apparently not operating to detailed requirements in some situations has been highlighted in NAVAREA 1 Warning 25/10 issued in September 2010. The anomaly can occur when routes are being planned across regions where only small scale ENC’s are available. Not all ECDIS units appear to perform appropriate route checking in these circumstances and so alerts are not always being properly generated.

In general, this is not a problem since vast areas of ocean have no hazards significant to normal navigation. However, there are some areas that have isolated dangers, such as small islands, which are only covered by very small scale charts.

### Over-reliance on electronic aids can deter navigators from establishing their own visual situational awareness.

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