Digital Ship
November 2011
www.thedigitalship.com

650 BSM vessels to move to e-commerce system

International shipping company Bernhard Schulte Shipmanagement, managing over 650 vessels, has signed an agreement with EDB ErgoGroup to implement its MarineLink e-commerce electronic purchasing system

Bernhard Schulte Shipmanagement is to implement the MarineLink e-commerce electronic purchasing system from EDB ErgoGroup, which is being provided in collaboration with Wilhelmsen Ships Service.

Bernhard Schulte Shipmanagement (BSM) manages a fleet of more than 650 vessels, of which over 300 vessels are under full management. The company will use the new system to connect with its suppliers for the handling of requisitions, quotes, orders and order confirmations, as well as managing the receipt and processing of electronic invoices.

The service also includes a number of additional tools to create statistics and KPIs, and maintain control over the purchasing function.

"Professional e-commerce delivery by MarineLink will clearly advance our procurement process resulting in improved efficiencies and reduced cycle times," said BSM group director - supply chain management, Dr Ruanthi De Silva.

"Not only would it bring about time and cost efficiencies, it will also help us monitor and further improve our procurement strategy through reporting tools."

"We are confident that selecting an e-commerce leader and the MarineLink service will support our future electronic procurement needs at a quality we expect."

Development

The MarineLink service has enjoyed some notable successes over the last year, with the current maritime product having evolved from the Marine Transaction Services (MTS) electronic purchasing system previously owned by Wilhelmsen Ships Service (WSS).

Founded in 2000, at a time when electronic purchasing systems were seen as 'the next big thing' and a raft of new internet companies were established to ride the wave of the 'dot com' bubble, MTS fared better than most by surviving for most of the decade while the majority of the newly formed companies fell by the wayside (though this was presumably helped by its ability to supply services to its parent company).

However, despite this longevity it failed to fully establish itself as a successful stand-alone company and was absorbed back into WSS in March 2009, to be run in-house and no longer be marketed as a separate product.

Interestingly, at that time Frederic Fontarosa, vice president of international sales and market segments at WSS, commented that "we don't see e-commerce as a special product – rather as a part of our larger offer to customers."

However, just one year later WSS announced that it was now outsourcing its e-commerce service to ErgoGroup, a Norwegian IT company already claiming more than 8,500 integrated customers on its own existing e-commerce technology.

continued on page 2

Bernhard Schulte will use the new system to manage purchasing for its fleet of more than 650 vessels

IN THIS ISSUE

satcoms

Marine Management to install Globe iFusion system – 6

Iridium launches Axcess Point for Wi-Fi – 4

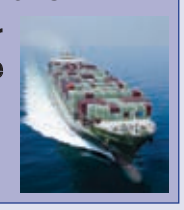
Crew PC to separate seafarer communications – 6

BP agrees CCTV powerline deal – 8

software

Experiences with ship management software:

Report from the 2011 ABS-NS user conference, with Bernhard Schulte Shipmanagement, Seaspan Ship Management, APL and Humboldt Shipmanagement – 18



electronics and navigation

A Methodological Framework for evaluating Maritime Simulation – 34

ECDIS implementation – Legal implications – 38

How not to use ECDIS - MAIB – 40

Spectrum pressures and effects on radar – Dr Andy Norris – 42

inmarsat iridium Globalstar GSM 3G EDGE Wi-Fi WiMax VSAT E-MAIL • DATA SYNCHRONISATION • INTERNET • INTEGRATION • REMOTE CONTROL • ANALYSIS TOOLS • 24/7 SUPPORT • MAXIMISED USE OF BANDWIDTH The Maritime Communications Experts™

© 2011 DUALOG AS. ALL RIGHTS RESERVED.

"Now I can enjoy the day"

- Thomas Dinter, IT Manager, Seaarland Shipmanagement

Seaarland Shipmanagement in Hamburg has recently focused on the strategic importance of ship-shore data communication and have ultimately selected **Dualog® Connection Suite™**.

"Dualog Connection Suite provides us with a real time overview and the ability to respond quickly and efficiently." says IT Manager, Thomas Dinter. "The software includes an integrated firewall so there is no additional hardware to worry about and no unexpected or unauthorised traffic." says Dinter, concluding "Dualog Connection Suite has improved our everyday situation."

dualog ALWAYS IN TOUCH
www.dualog.com
(+47) 77 62 19 00 or sales@dualog.com

Digital Ship

Vol 12 No 3

Digital Ship Limited
2nd Floor,
8 Baltic Street East
London EC1Y 0UP, U.K.
www.thedigitalship.com

PUBLISHER
Stuart Fryer

EDITOR
Rob O'Dwyer: Tel: +44 (0)20 7017 3410
email: odwyer@thedigitalship.com

DEPUTY EDITOR
Julie Ann Chan. Tel: +44 (0) 20 7017 3414
email: julie@thedigitalship.com

CONFERENCE PRODUCERS
Karl Jeffery: Tel: +44 (0)20 7017 3405
email: jeffery@thedigitalship.com
Cathy Hodge: Tel +44 (0) 20 7253 2700
email: cathy@thedigitalship.com

ADVERTISING
Ria Kontogeorgou: Tel: +44 (0)20 7017 3401
email: ria@thedigitalship.com

PRODUCTION
Vivian Chee: Tel: +44 (0)20 8995 5540
email: chee@thedigitalship.com

EVENTS
Diana Leahy Engelbrecht
Tel: +44 (0)118 931 3109
email: diana@thedigitalship.com

CONSULTANT WRITER
Dr Andy Norris (navigation)
apnorris@globalnet.co.uk

DIGITAL SHIP SUBSCRIPTIONS
GBP £150 per year for 10 issues
Subscribe online at
www.thedigitalship.com
or contact Stephan Venter on
venter@thedigitalship.com,
tel +44 (0)20 7017 3407

UPCOMING CONFERENCES

DIGITAL SHIP ATHENS
Athens Metropolitan, Athens
22 - 23 November 2011

DIGITAL SHIP HAMBURG
Magnushall
1-2 February 2012

DIGITAL SHIP SCANDINAVIA
Scandic Hotel Bergen City
28-29 February 2012

Printed by
The Manson Group Ltd
Reynolds House, 8 Porters' Wood
Valley Road Industrial Estate
St Albans, Hertz AL3 6PZ
U.K.

No part of this publication may be reproduced or stored in any form by any mechanical, electronic, photocopying, recording or other means without the prior written consent of the publisher. Whilst the information and articles in Digital Ship are published in good faith and every effort is made to check accuracy, readers should verify facts and statements direct with official sources before acting on them as the publisher can accept no responsibility in this respect. Any opinions expressed in this magazine should not be construed as those of the publisher.

continued from page 1

EDB ErgoGroup integrated the MTS service into its own platform, adding new functionality for invoice processing and logistics integration.

David Tandy, president of Wilhelmsen Ships Service, explained the move, saying "we saw that our industry needed a generic e-commerce service, where e-commerce is handled professionally as the commercial tool that it is."

"We need a service provider, with large volumes, which also has the ability to handle the relatively small number of shipping specific services that exist. High volume will automatically drive the cost of usage down and at the same time increase the efficiency and functionality."

With this move existing buyers and suppliers using the WSS e-commerce system were transferred to ErgoGroup, which continued to provide them with e-commerce services.

Since then the company has been able to report a steady stream of new customers, with companies such as Fred Olsen Marine Services, Jo Tankers, Bergshav Management, Rederi AB Transatlantic and Imperial Ship Management having all been announced as agreeing new deals in 2011.

John Inge Røtting, Wilhelmsen Ships Service; Dr Ruanthi De Silva, Bernhard Schulte Shipmanagement; and Jonny Lotten from EDB ErgoGroup celebrate the new contract

More than 3,000 vessels are now trading through MarineLink, performing over 250 million transactions annually.

"We at Wilhelmsen Ships Service are very happy that such a large customer as Bernhard Schulte Shipmanagement has chosen MarineLink," said Siri Jacobsen, vice president strategic marketing and business improvement at Wilhelmsen Ships Service.

"We feel it proves us right when we sold our solution (MTS) to an e-commerce specialist such as EDB ErgoGroup. The MarineLink platform benefits from its large scale e-commerce operations and it is more functionally rich than any other e-commerce solution in the marine segment." DS

Globe iFusion for Marine Management

www.globewireless.com

Globe Wireless has announced the signing of a contract with Piraeus-based Marine Management Services (MMS), whereby Globe Wireless will provide its iFusion system to MMS.

Globe iFusion is a communication solution featuring an Inmarsat FleetBroadband 250, a dual firewall, optimised IP connections and multiple least cost route gateways. The system is designed to provide voice calls using GSM, sending and receiving e-mail, and browsing the internet.

The solution also offers shore-side control, including the administration of user profiles, browsing capabilities, firewall settings, satellite gateways and least cost routing.

"The driving force behind this long established relationship with Globe Wireless has been our requirement to minimize the overall cost of our communications traffic, which has always been a very significant operational expense," says Constantinos Psomopoulos, IT manager, Marine Management.

MMS has used Globe iFusion to test the operational uses of all other onboard satellite systems, examining a wide range of applications, including web browsing, e-mail and GSM calling and texting. Crew members were given very low cost access to voice and internet services every day during their leisure hours.

"We are honoured and pleased to enhance and extend our strong partnership with Marine Management Services and grateful for their business," says Dave Kagan, president, Globe Wireless.

"Globe Wireless has supplied Marine Management Services with messaging solutions, satellite and HF communications services and operational IT applications since 2000."

In other news, Globe Wireless has also announced that it has been granted a Blanket Wireless Radio Station Licence by the Japanese Ministry of Information and Communications.

This licence authorises Globe Wireless to offer Inmarsat FleetBroadband mobile satellite communications services in Japan and on Japanese registered vessels.

"With this licence in place and our new Regional Sales Office in Tokyo, we have enhanced our ability to offer new and exciting services to meet the growing Japanese demand for the latest FleetBroadband satellite communications," says Mr Kagan.

H2O and KNS launch SuperTrack A6 60cm VSAT

www.kns-kr.com
www.h2osatellite.com

H2OSatellite and Korean company KNS have announced the launch of the SuperTrack A6 60cm VSAT, designed to be used with the ASTRA2connect service. The A6 will be included as a new product in H2O's Litespeed product range.

H2OLitespeed is a marine broadband communications package offering download speeds of up to 4 Mbps. The range of products already includes an 85cm SuperTrack A9 terminal from KNS.

"The Super Track A-Series service package enables maritime customers to not only benefit from a constant internet connection and VoIP services but also to cut down on the high cost of equipment and services," says Kevin Jin, CEO KNS.

The H2O Litespeed packages are powered by ASTRA2connect airtime and offer Europe-wide coverage.

"We had great success with the A9, 85cm terminal and we recently celebrated the installation of our 100th terminal," says Robert Kenworthy, MD H2OSatellite.

"I am sure this new, smaller more compact A6 terminal will be an even greater success, as it is suitable for such a greater number of ships."

The package is now being sold in the pre-commercial phase, while service performance is monitored for further improvements.

US Coast Guard deploys Stratos Ku-band

www.stratosgsi.com

Stratos Government Services (SGSI), a subsidiary of Inmarsat, has announced that it has won a five-year Indefinite Delivery Indefinite Quantity (IDIQ) contract with the United States Coast Guard (USCG).

Under the agreement, SGSI will provide the USCG with Ku-band satellite airtime, installation support, teleport equipment and service, and Network Operations Centre support and training.

According to the contract, SGSI will build out a Ku-band network to support USCG High-Endurance Cutters and Medium-Endurance Cutters. The broadband service will enable the cutters to interconnect with the USCG data network to exchange operational ship traffic, including SIPRNET and NIPRNET data.

Ku-band is regarded to be critical to the USCG's efforts in upgrading technology onboard its ships, as it migrates from Inmarsat-B leased services to an IP-based communications architecture.

The upgrade, which will also include the provision of FleetBroadband, already currently being provided by SGSI, is hoped to increase the vessels' communications throughput capabilities to operate globally in all weather conditions.

"This contract award represents a critical component of USCG's technology upgrade and transition to an IP-based architecture," says Bob Roe, SGSI president and CEO.

"We consider it an honour and a privilege to have been entrusted with this responsibility, and we are grateful for the opportunity to expand our relationship with USCG."

THOMAS GUNN navigation services ltd.

YOUR PERFECT PARTNER FOR THE TRANSITION TO DIGITAL NAVIGATION

TOTAL ECDIS SOLUTION

NAVECDIS

AVCS

Voyager

Fully Type Approved ECDIS

24" widescreen monitors
Solid state hard drives
Advanced route planning and passage planning
Remote Diagnostics for rapid & low-cost support
Option for radar video overlay
Modular design for easy installation
CBT (Computer based training) module

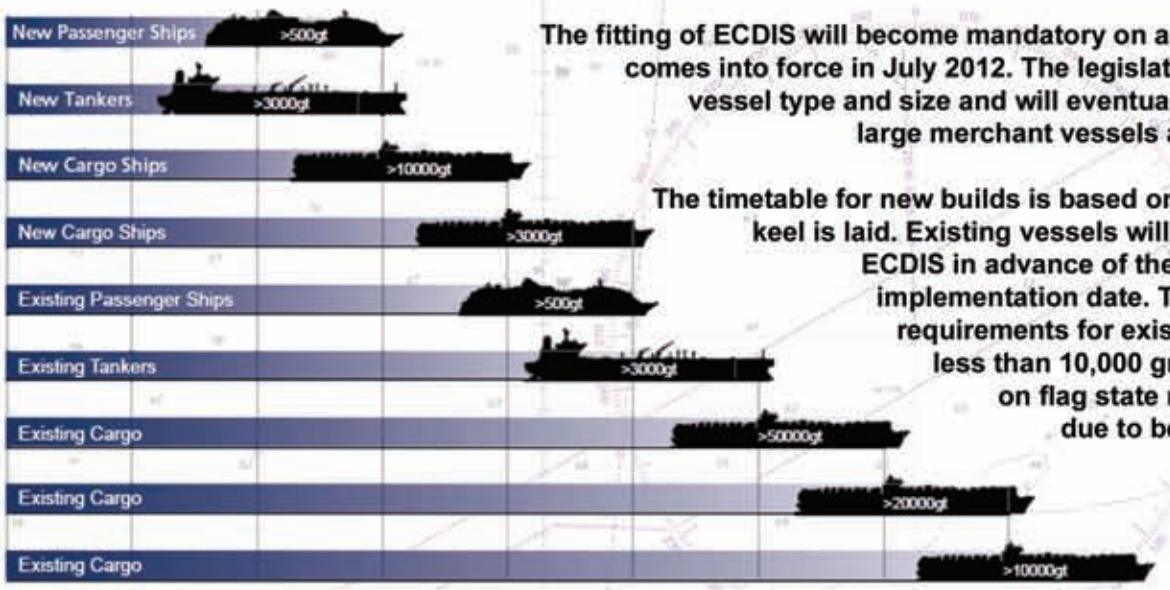
Admiralty Vector Chart Service

The world's most comprehensive ENC service
One single, efficient chart system
Total flexibility to save you time and money
Always up to date - Updates via e-mail or web service
Admiralty Information Overlay for T & P Corrections
Quality, Reliability and Integrity
ECDIS Compatibility to meet latest IMO requirements

Voyager Digital Update Service

Compression technology achieving 60% file reduction
Product catalogue management system
Admiralty BA NTM's and tracings service
Admiralty AVCS/ENC cell & permit updates
Admiralty Digital Publication updates
Weekly UK M-Notices
Updates via Web service or Email
No special equipment required

ECDIS Mandation Timeline



The fitting of ECDIS will become mandatory on a rolling timetable that comes into force in July 2012. The legislation will be phased by vessel type and size and will eventually apply to almost all large merchant vessels and passenger ships.

The timetable for new builds is based on the date the vessels keel is laid. Existing vessels will be required to install ECDIS in advance of the first survey after the implementation date. There are currently no requirements for existing cargo vessels of less than 10,000 gross tons. Depending on flag state requirements vessels due to be taken out of service within 2 years of the implementation date maybe exempt.

ADMIRALTY Digital Services

INTERNATIONAL ADMIRALTY CHART AGENT

Email: info@thomasgunn.com | Tel: 0044 (0)1224 595045 | Web: www.thomasgunn.com

Iridium launches AxcessPoint

www.iridium.com

Iridium has announced that its complete suite of Iridium AxcessPoint products and services are now commercially available, including the Iridium AxcessPoint Wi-Fi hotspot accessory, free Iridium AxcessPoint Mail & Web optimisation software, and the Iridium AxcessPoint Connect downloadable application.

"This innovative suite of Iridium AxcessPoint products and services enables smartphones and laptops to work anywhere in the world, easily and efficiently over the Iridium network," says Joel Thompson, vice president, product management, Iridium.

"These new products, which are a first for the industry, are the epitome of our recently-unveiled Iridium Force vision. This is a terrific example of Iridium's commitment to enhance personal communications."

"We are making the world's furthest reaching network more accessible and cost-effective through devices that customers already use daily."

Iridium AxcessPoint Connect is a downloadable application that can turn Windows laptops into global Wi-Fi hotspots when connected to an Iridium Extreme or Iridium 9555 satellite phone.

The AxcessPoint can turn an Iridium phone into a Wi-Fi hotspot

Iridium AxcessPoint Connect enables Wi-Fi-compatible devices to synchronise and respond to e-mail or use the internet over the Iridium network.

The AxcessPoint is a Wi-Fi hotspot accessory that connects to the satellite network using an Iridium Extreme or Iridium 9555 satellite phone. The company's AxcessPoint Mail & Web software is available at no additional charge for use with the Iridium AxcessPoint Wi-Fi accessory.

AxcessPoint Mail & Web enables e-mail and internet services and aims at optimising the user's time on the Iridium network by managing the data connection and improving the effective speeds.

The software allows for offline viewing and composition of e-mails, configuration and filtering of large data files and attachments, and mid-file restart of attachment transfers if required.

Iridium AxcessPoint Mail & Web automatically disconnects after the transfer of data, and features built-in firewall protection to block extraneous internet traffic.

Users of Apple operating system (iOS) devices, and Windows and Mac laptops, can register and download Iridium AxcessPoint Mail & Web software for use with Iridium AxcessPoint.

BlackBerry and Android smartphone users can also register and obtain set-up instructions for use of their devices, while Iridium says it plans to make software for Apple iOS devices available by the end of 2011.

"Iridium AxcessPoint Mail & Web is optimised for Iridium so it maximises users' time spent on the network," says Mr Thompson.

"This application truly provides enhanced data communications efficiencies and cost savings. It improves the effective speed and reduces the amount of airtime required to send and receive e-mails."

"We expect existing and new Iridium customers to greatly benefit from the 10-12 e-mails per minute transfer rates that we have seen when using the product."

Iridium states that AxcessPoint will retail for less than $200 (USD).

Iridium users can download Iridium AxcessPoint Connect and Iridium AxcessPoint Mail & Web free of charge. Subscribers are required to use the services with an Iridium 9555 or Iridium Extreme phone.

Globalstar satellite order rejected

www.globalstar.com

Globalstar has had an order it placed with Thales Alenia Space for an additional six satellites, to be used in its second generation satellite constellation, rejected by the satellite construction company, as ongoing disputes between the companies continue.

This new order was to be in addition to the 25 satellites already ordered under a 2006 contract. Globalstar had hoped to have these six new satellites delivered, at a cost of approximately €55 million, by mid-2013.

Globalstar argued that such a speedy delivery date had been agreed upon when the contract was signed in 2006, due to the fact that it had previously purchased €12 million in "long lead items."

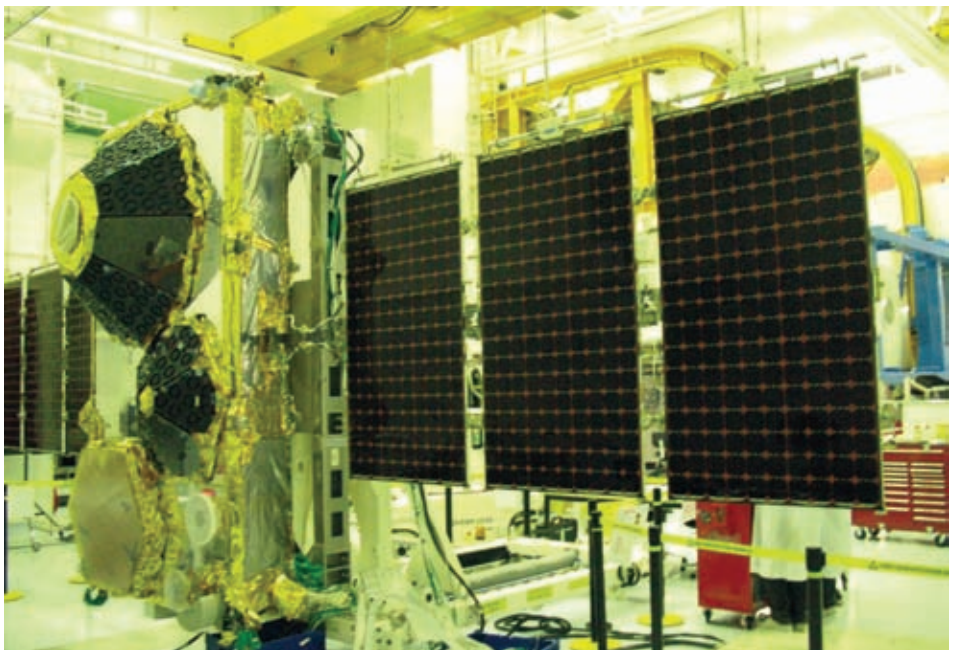
The company said that it had already prepaid over €53 million as part of its 2009 COFACE financing arrangement, which, combined with the €12 million long lead items, meant that Thales has already received approximately €65 million for these satellites.

Globalstar said that further payments would not be made until Thales Alenia Space initiates the manufacturing process – which seems redundant now that Thales has rejected the order via a written notice.

Globalstar, in an SEC filing, said that it had previously filed a demand for arbitration against Thales to enforce certain rights for the construction of these satellites.

Furthermore, Globalstar has contended that "if Thales is correct in their assertion that Globalstar has lost rights to place an order, then Globalstar should be entitled to an award of at least €395 million."

This news was followed by another announcement that Dirk Wild, chief financial officer of Globalstar, was resigning from his position effective November 11, 2011, though it was stated that his resignation was not the result of any disagreement with the company.



Thales has rejected an order to build six more second generation satellites for Globalstar. Photo: Thales

Thrane launches global maritime satellite TV

www.thrane.com

Thrane & Thrane has launched its upgraded SAILOR 90 Satellite TV World antenna, which has undergone an internal upgrade programme and offers satellite TV reception for vessels sailing globally, without the need for reconfiguration or manual intervention.

"A key challenge for maritime satellite TV has always been the differing signal and polarisation types used around the world," says Casper Jensen, VP maritime business unit, Thrane & Thrane.

"The various signals require different hardware and software, and the costs associated with this mean that, generally, vessels sailing globally have not provided satellite TV for crew welfare purposes."

Ku-band satellite TV transmits in either circular polarisation or linear polarisation. Circular polarisation is mainly used in the USA, parts of Central and South America and parts of Asia. Linear polarisation is the standard in Europe, the Middle East and Asia Pacific.

The two polarisation forms are incompatible, thus conventional antennas have to be manually configured by substituting the feedhorn or LNB to receive either one or the other.

Thrane has developed an automatic depolarisor for the SAILOR 90 Satellite TV World that allows automatic switching between polarisations in, as the company claims, a matter of seconds.

The company says that the depolariser provides switching without loss of bandwidth or signal strength, or changing parts, and that the system does not use extra motors or actuators.

The antenna features a satellite library, which contains information on whether the desired satellite is linear or circular so that users do not need to know where they are.

The SAILOR 90 Satellite TV World antenna can receive TV signals in different global regions

The upgraded SAILOR 90 Satellite TV World further covers different broadcast standards in different regions, such as DVB-S and DVB-S2 as well as ATSC and ISDB.

The antenna has a built-in DVB-S2 decoder so all SD and HD programming can be viewed.

An 'Adjacent Lock Function' also enables the viewing of content from satellites using alternative broadcast standards. It enables the antenna to lock on to an adjacent DVB-S or DVB-S2 satellite and then turn 'X' degrees to receive a signal from the non DVB-S or DVB-S2 satellite, because it knows how the two satellites are placed relative to each other.

This function essentially makes the antenna independent of broadcast standards and is a key factor for a global satellite TV solution.

"The SAILOR 90 Satellite TV World is great news for crews working on globally trading vessels," adds Mr Jensen.

"Until now, they have not had the possibility of satellite TV due to the varying signal and polarisation types used by different satellites around the world. Now it is as simple as pushing a button."

inmarsat

The mobile satellite company™

CONTAINED SPEND

Did you know that you can fix your communications costs with FleetBroadband? At Inmarsat, we're aware that you need to be able to manage your monthly spend. Whatever your budget, we have competitive and flexible pricing packages to meet your voice and data requirements. What's more, our range of partner value-added services can help you optimise your usage and ensure you don't spend more than you need to. Talk to your service provider today to see how you can benefit from FleetBroadband.

inmarsat
The mobile satellite company™
RACE PARTNER
VOLVO OCEAN RACE
2011 - 2012

FleetBroadband
With terminal options for every size and type of vessel, FleetBroadband delivers cost-effective, always-available voice, email, internet and SMS on all the world's oceans.

inmarsat.com/contain

SingTel launches crew welfare package

www.singtel.com

Singapore Telecommunications (SingTel) has announced the launch of a new broadband crew experience package.

The company says that the solution will enable greater levels of control and efficiency for shipping companies in managing crew comms, while also helping to optimise operational costs.

SingTel's package contains broadband airtime and ICT components such as the company's All-in-One (AIO) Connect Services communications applications, as well as VoIP at a level of 4 to 6 kbps. It is available at a price of US$2,888 per month.

Connectivity is provided via MVSAT Ku-band broadband, with FleetBroadband as a back-up. Contracts are for 36 months.

AIO Connect Services' prepaid messaging card can be used to provide crew access to SingTel's recently launched CrewXchange portal.

The package additionally provides fleet managers with access to an integrated network management system (iNMS) which SingTel says facilitates management and visibility of the entire fleet from the shore.

This includes monitoring of device usage, visibility into network statistics and online administration, monitoring, setting of online alerts, filters and mailbox management, as well as crew billing for both pre-paid and post-paid accounts.

Three voice-call settings and four picture compression options are available, at different quality and cost levels.

"SingTel is committed to helping maritime customers improve their bottom line and efficiency while bettering the lives of their crew," says Titus Yong, VP satellite, SingTel.

"This unique offering clearly differentiates us from the rest of the industry, offering an affordable solution that is simple to implement and manage. We are very pleased to be able to offer this suite of services at such a competitive price, which we believe will bring immediate cost and productivity benefits to the community."

"These days, it is normal to be hyper-connected while on land. This solution enables crew members to enjoy similar levels of connectivity while out at sea. With these technologies, we hope to help alleviate the stress and isolation that seafarers experience from being away from friends and family for extended periods."

'We believe this will bring immediate cost and productivity benefits' – Titus Yong, SingTel

Intellian expands partnership with SpeedCast

www.intelliantech.com
www.speedcast.com

Intellian Technologies has announced an extension of its partnership with satellite telecommunications service provider SpeedCast, of which Intellian is a preferred supplier.

The companies are offering broadband packages based on Intellian's antennas and SpeedCast's broadband plans and global coverage.

"Broadband connectivity has become a key element in the successful operations of the maritime and offshore industries," says Nick Dukakis, vice president, SpeedCast Maritime and Offshore Services.

"SpeedCast is committed to offering outstanding service, providing these industries with complete reliability, which means we only partner with companies that share our vision and passion for the highest standards of quality and service."

"We are very pleased to be working with Intellian, which has developed a wide range of high-quality marine VSAT antennas of exceptional technical ability, which in turn allow us to deliver a 'best-in-class' broadband communications service to an even greater range of shipping and offshore customers."

SpeedCast's recently expanded service extends across 20 Ku-band beams covering most major shipping lanes and offshore regions.

"Intellian is one of the maritime industry's fastest growing companies," says Eric Sung, president and CEO, Intellian.

"We have deployed over 15,000 marine stabilised satellite antenna systems since 2005 so we are pleased to develop our partnership with SpeedCast which is a leader in marine VSAT services. Jointly we are providing an exceptional service to customers in the rapidly expanding Asia and Middle East regions."

NSSLGlobal extends satellite coverage

www.nsslglobal.com

NSSLGlobal reports that it has increased its satellite communications coverage for the maritime industry with the introduction of a new 'spot beam' on the SES NSS6 satellite at 95 East.

The new beam, which will be used to support shipping in South East Asia, will be supported from NSSLGlobal's Cyprus hub and provide additional capacity as well as beam and hub redundancy for maritime users. This will enhance NSSLGlobal's existing coverage in the area.

NSSLGlobal operates a DVBS2-RCS Network, and the company says that the addition of this new beam is part of its programme of continued technological investment in the service and reach of its network.

Thuraya has appointed Patrick Chenel as chief financial officer. Prior to joining Thuraya, Mr Chenel was Chief Financial Officer for the real estate arm of the Qatar Investment Authority, **Qatari Diar.**

H2O Satellite has appointed Amanda Couzens-Davies to the newly created role of head of marketing. Ms Couzens-Davies is the former international marketing manager for **2020 Mobile** and was UK head of marketing for **Brightstar Europe.**

KVH has announced the opening of its new Asia-Pacific region headquarters in Singapore, featuring a showroom, test centre, and training centre for partners and customers.

Thrane & Thrane and one of its distributors, **AST Australia,** have announced the extension of their existing distribution agreement for SAILOR equipment to also include the new SAILOR 900 VSAT antenna system.

Chris Insall has joined **Sea Tel** as manager, commercial programmes, where he will be responsible for new business development. Mr Insall has worked in maritime satellite communications for over fifteen years and joins Sea Tel after more than a decade with **Inmarsat**, where he was maritime product manager.

SatPoint has announced the appointment of Magnus Hedberg as new chief executive officer, succeeding Markus Selin, who will stay on the company's board. Mr Hedberg brings 20 years of experience to SatPoint having previously served as CEO for **Marratech**. Mr Hedberg will further continue to serve as CEO for **GroupTalk**, which was acquired by SatPoint.

Intellian Technologies has appointed Olaf Eikelenboom as EMEA field service manager at its European sales and support office in Rotterdam, the Netherlands. Mr Eikelenboom has previously worked with the Royal Dutch Navy as well as in the marine electronics industry.

www.satpoint.se
www.gvf.org
www.h2osatellite.com
www.kvh.com
www.thrane.com
www.asta.net.au
www.thuraya.com
www.seatel.com
www.intelliantech.com

Crew PC to separate seafarer communications

www.vizada.com

Vizada has launched the Crew PC, a dedicated computer data system for crew members which enables crew to send e-mails and use the internet completely separately from business communications.

The Crew PC is a pre-configured onboard PC which is connected to a satellite data terminal, such as FleetBroadband or VSAT, to provide instant access to data communications services like e-mail, chat and internet access.

All services run over a dedicated prepaid channel, keeping them completely separate from applications required for business purposes.

The Crew PC provides a common interface resembling a standard Windows environment, and provides access only to designated e-mail accounts and applications, preventing crew from downloading heavy files or software applications which generate significant bills.

It is also 'recognised' as a mobile device similar to a smartphone, so that mobile-enabled internet sites are automatically triggered to reduce the number of image downloads. A data compression function can be activated to further reduce the cost of web browsing.

Crew PC runs over a dedicated prepaid line which quarantines business systems from any viruses introduced by private downloads or USB devices, as well as having its own built-in firewall.

Vizada is providing Crew PC free of charge to shipping companies purchasing 100 or more of its Universal Cards, the company's pre-paid communications service.

Buss Data GmbH, part of the German-based shipping organisation Reederei Buss, participated in the test phases of crew PC, and Swen Kleinau, IT manager at Buss Data, believes that this new crew option has been beneficial.

"We've been using the service since May 2011 and really appreciate the fact that it is preconfigured in a way that prohibits crew from installing software or changing settings," he said.

"When they reboot the PC, the default settings wipe out any changes made. It has reduced crew comms admin to next to nothing and as a result we plan to install the system on more than 50 of the Buss vessels."

The Crew PC is free to shipping companies purchasing more than 100 Universal Cards

Advertisement feature

s@tGate: A new Value Added Service by Otesat-Maritel

Otesat-Maritel offers s@tGate, a complete solution for management and optimization of broadband data for B2B and crew usage. The service is provided via the s@tGate equipment developed for maritime usage, and a web interface for remote and onboard management.

The main features of the service include: pre-paid crew and post-paid B2B internet access, data compression and caching, remote and onboard management via a user friendly web interface. Also, the service is provided via Otesat-Maritel's network so that a hub is not necessary at the customers' premises.

With s@tGate services, the shipping companies can improve crew welfare with low rates and high speed internet access by exploiting their FleetBroadband packages. Installation and configuration are straightforward, user accounts can be refilled with vouchers of 1.250 units, 2.500 units, and 5.000 units, while there is also an ability for account migration from vessel to vessel within a fleet, and unit transfer from a user account to another user account.

Web interface

A Web Interface enables the management of the service on board and at shore, by allowing to authorized personnel/users to:

- ➔ Create and manage usage rules and corresponding filters
- ➔ Monitor account and corresponding unit statistics per vessel within a fleet
- ➔ Specify daily web access schedule on board.
- ➔ Extract log data traffic reports in Excel format

Specifically, the shipping company can:

- Create user accounts and manage the vouchers for an entire fleet
- Assign vouchers to vessels and/or the usage per vessel,

While, the vessel administrator can:

- Create and manage accounts
- Assign vouchers to user accounts
- Schedule daily web access if required.

Finally, the crew has the ability to:

- Monitor usage in real time
- Refill account
- Transfer units from one user account to other accounts
- Migrate one account to other vessels of the same fleet
- Have their own web mail accounts
- View web logs

The s@tGate service is the new addition in Otesat-Maritel's FleetBroadband portfolio of Value Added Services, which could be specially-tailored to the customized needs of its customers, and as always being fully supported by its 24/7 Customer Care. Otesat-Maritel enriches its portfolio with the s@tGate service, remaining committed to its strategy for offering global, up-to-date, quality, and reliable total satellite communications solutions, yet at competitive prices.

s@tGate Satellite internet services

- Crew pre-paid internet access and B2B post-paid
- Data compression and caching
- Remote and onboard management via a user friendly web interface
- One rate plan for business and crew
- No hub is required at customers' premises
- 24/7 Customer Support

otesat_maritel
MEMBER OF OTE GROUP

Keeping you in touch. Globally

Tel.: +30 210 4071111 • Fax: +30 210 4071110
e-mail: customer_care@otesat-maritel.com, marketing@otesat-maritel.com • www.otesat-maritel.com

Design Review completed for Global Xpress

www.inmarsat.com

Inmarsat reports that it has successfully completed the Critical Design Review for the Inmarsat-5 satellites, under contract with Boeing, which will form the backbone of its Global Xpress Ka-band network.

During this review the spacecraft design and operation were examined by Inmarsat's engineering and operation teams, as well as by a Boeing independent review team.

Inmarsat says that progress has been made on the manufacturing of key elements of the first spacecraft, including structure, propulsion systems and flight hardware.

As such the company is confident that the Inmarsat-5 F1 is on schedule for completion and launch in 2013.

In parallel, plans for construction of the Proton launch vehicle which will lift Inmarsat-5 into orbit will be discussed at a meeting with ILS and the vehicle manufacturers Khrunichev in early December.

"This is a fundamental milestone and marks the transition of the project from a design and engineering phase to a manufacturing, integration and test phase," said Franco Carnevale, Inmarsat vice-president, space segment.

"The review was completed earlier than scheduled, and the conclusion of the CDR board was that the design is mature and there are comfortable margins with all key performance parameters."

1,000th Ship Equip VSAT goes live

www.ship-equip.com

Ship Equip reports that it has reached the milestone of having 1,000 VSAT systems now in operation, an announcement that coincides with its first deliveries of XpressLink systems, which include a free upgrade to Inmarsat's Global Xpress Ka-band service when it is launched in 2013.

The flat fee XpressLink service delivers 512 kbps/512 kbps bandwidth speeds, with a minimum average data rate of 128 kbps.

Ship Equip had already announced the 1,000th order for its VSAT services in June of this year, with that system now operational. This has been achieved in approximately eight years since the company was launched in 2003, before being acquired by Inmarsat in 2011.

"As the acceptance of VSAT caught on, we took a decision to plan for large numbers of customers," said Ship Equip COO, Esben Flo.

"The only way to do that was to simplify and standardise the product, while allowing for customisation in the setup."

Ship Equip's approach to this was to put all the electronics into a five unit rack, with a 12 inch colour touch screen as interface, and standardise the set-up on one stabilised antenna. Mr Flo believes that, as growth increased, this turned out to be a key strategy to handle the increase in installation volume.

"When the majority of our orders contain the same components it is much easier to scale the volume quickly. The remaining challenge then to achieve a successful delivery is to get access to the ship in a port," he said.

Ship Equip now estimates that, based on external market reports, around 10 per cent of the maritime market has already installed VSAT, and expects that this will continue to increase.

BP agrees CCTV powerline network deal

www.gentay.co.uk

Gentay reports that it has agreed a contract to supply BP Shipping Limited with vessel based surveillance CCTV cameras utilising its iPoP – Network Solutions for Vessels.

The company's iPoP-Network Solution for Vessels was launched six months ago, and is used to create or expand computer networks onboard vessels using BPL (Broadband via Powerline) technology.

This technology will be integrated with conventional internal and external CCTV cameras, and deployed onboard ship to transmit CCTV signals into a vessel citadel for surveillance purposes during possible piracy attacks.

Gentay says that the system has already been successfully deployed on bulk carriers, gas carriers, offshore supply vessels, car carriers, and chemical tankers.

"Installation of CCTV cameras onboard vessels for monitoring and surveillance has been of interest to the maritime industry for a long time," said Martin Nygate, director of Gentay.

"Whilst the installation of CCTV cameras has become common place in land based industries, the expansion of CCTV cameras into the maritime industry has always proven to be prohibitively expensive due to the need to supply network equipment."

"By combining the low cost iPoP-Network Solutions for Vessels with CCTV equipment, it is now very affordable to provide remote real time CCTV monitoring to the Master and office."

Gentay also notes that it has opened a new office in Singapore, as it looks to expand its activities into Asia.

More services.
More communication. More possibilities....
More than a box!

A bandwidth management and optimization solution
specifically designed and developed
to increase the efficiency of your vessels' communications,
reduce the costs of both business and crew communication
and offer more crew welfare options.
Flexibility, Security, Savings...
Infinity Solutions for infinite needs!

Distributed by navarino
For **more** information visit: **www.navarinotelecom.com**

INFINITY
MARITIME COMMUNICATION SOLUTIONS

SpecTec wins two new contracts

www.spectec.net

SpecTec has signed agreements with two companies for the use of its AMOS software package, with Kuang Ming Shipping Corp of Taiwan and Gungen Maritime and Trading of Turkey both agreeing new contracts.

AMOS software and related services will be supplied to Kuang Ming's head office and on the company's bulk cargo ships.

Kuang Ming operates a liner service and currently runs dry bulk cargo services worldwide with its 14-strong bulk fleet. It is scheduled to have a bulk fleet of more than 20 vessels by 2013 and aims to become a competitive operator of Panamax bulk vessels.

Kuang Ming has been using the full AMOS Suite on the vessels KM Hong Kong and KM Sydney since 2010, and will now deploy the AMOS Maintenance and Purchase module at its head office.

AMOS is expected to provide automated monitoring and control of the fleet maintenance work and costs, stock control and purchasing, as well as providing savings and cost analysis.

Ships' data will be transferred automatically between head office and vessels, providing real-time updates.

"SpecTec is honoured and proud to have been chosen to facilitate Kuang Ming Shipping Corp," says Ben Fan, SpecTec Hong Kong managing director.

"We are aware that the customer has a choice of who they select as their Partner/Vendor, and SpecTec's local support and over 26 years of experience has placed it at the forefront of the selection criteria, and we are very pleased to have been selected."

In Turkey, Gungen Maritime and Trading signed a contract for the migration of its AMOS BS system to the latest version of AMOS2 Enterprise Management.

The agreement will see the shipping company introduce the latest AMOS product to its offices in Ankara and Istanbul, as well as onboard its fleet of vessels.

This includes a number of Suezmax (150,000 dwt) crude oil tankers, two vessels which Gungen already owns and operates, the Ottoman Nobility and Ottoman Equity, and two vessels soon to be delivered, the Ottoman Integrity and Ottoman Tenacity.

One factor that is of particular interest to Gungen is the implementation of the upgraded AMOS2 Staff Management module. This module includes a new Time Sheets functionality, to manage the watch keeper schedule onboard.

SpecTec says that this module has been developed to assist in human resources management and support conformity with regulations concerning crew management (STCW 95/2010, MLC 2006, OPA 90).

Anthony Veder to implement Star software on new vessels

www.mirtac.nl

Anthony Veder has expanded its use of Star Information Systems' StarIPS software package to its newly acquired ships.

The Rotterdam-based company had been using StarIPS for the last four years on approximately 15 vessels, and has agreed with supplier MirTac to extend this usage to its latest vessels.

Anthony Veder uses StarIPS to manage onboard processes and procedures, such as maintenance planning, stock control, vessel administration and document control.

The vessels transfer data to and from the onshore office to bolster fleet management, whilst meeting all safety, environmental, health and customer regulations such as ISM and ISPS.

Anthony Veder's newbuilds will implement StarIPS

Ecodesk signs Maersk subsidiary to Ecofloat

www.ecodesk.com

Ecodesk, a public, sustainability database of carbon, energy, water and waste, with data on over 17,000 global organisations, has announced the signing of an agreement to deliver the first version of its training course, Ecofloat, to Maersk subsidiary Svitzer Australia.

Ecofloat 1.0 is a new, interactive digital training course specifically designed for the maritime industry. The course comprises ten specific lessons with exercises focused on tug operation specifics such as speed and acceleration, using tide and current and planning ahead, as well as setting out practical steps to reduce fuel costs and carbon emissions via idling time and generator load.

Ecodesk aims at delivering a series of benefits with Ecofloat, such as reducing fuel consumption by over 15 per cent, reducing GHG emissions, facilitating compliance with legislation, as well as boosting crew morale.

"I'm really impressed with Ecofloat 1.0, the visuals, the content, and specifically the way the lessons build up before the final summary," says Gary Vink, engineering manager for Maersk.

"We expect this will have a tangible effect with our crews, as part of the nationwide efforts to save fuel and carbon emissions."

Svitzer Australia, a subsidiary of Maersk, is the first to take delivery of Ecofloat which will be deployed in port facilities across the country as a commercial pilot, before a more complete rollout is planned.

Ecofloat could help to reduce fuel consumption by 15 per cent

"If you extrapolate this single measurement/efficiency project across the maritime sector, the cost savings run into tens of billions of dollars," says Ecodesk CEO Robert Clarke.

"Maritime companies like Maersk, BP, Mitsui and Hanjin are making huge savings by undertaking sustainability strategy. It starts with measuring energy and carbon emissions – which gives a whole new set of metrics to run cost efficiencies into modelling programs. We have discovered literally thousands of companies worldwide making savings through efficiency programs like Ecofloat."

"Ecodesk.com is about helping businesses realise these savings by providing a platform for measurement guidance and publishing. We support all the most prominent standards of excellence and actively promote BSI, GRI, WRI in their efforts to provide strong measurement criteria."

Shipserv releases survey results

www.shipserv.com

ShipServ has released the results of its '2011 Internet Use in Shipping Survey', an annual survey into the use of the internet and e-commerce in the shipping industry with the aim of building an understanding of how trends in business-to-business e-commerce are impacting the maritime sector.

The company says that results of this year's survey show a quickening of observable trends in internet use, with many respondents adopting new tools and working methods to adapt to challenging shipping market conditions.

The survey has shown that many more marine buyers and suppliers are using the internet to source and transact, with a significant (15 per cent) increase in usage between 2010 and 2011.

In addition, users consider peer reviews on suppliers and the selection of trusted websites as the two most important factors in influencing a purchasing decision from an internet-based provider.

Respondents also said that faster transaction speed was the greatest benefit of doing business over internet.

Moreover, 75 per cent of respondents said, in the biggest shift since 2010, that they would increase their use of social media in a business context.

Over 50 per cent of respondents said they use the mobile internet or a mobile application every day.

The survey further highlighted that internet search plays an increasing role in buying decisions. Around 50 per cent of purchasers begin the majority of their buying processes on the internet by using sourcing tools such as Google or ShipServ Pages.

Another finding was that one of the biggest obstacles to adoption of e-commerce remains a lack of trust. However, the survey found a noticeable decrease in this metric since 2010.

"This survey is unique in the shipping industry and it highlights not just the increasing usage of the internet but also the tangible benefits it brings to end-users," says Mark Warner, business development director, ShipServ.

"While we expected to see the uptake of e-commerce grow, there were some welcome new developments. For example, there has been a fundamental shift in attitudes over the last 12 months as shipping industry users adopt the tools and methods of social media – such as mobile apps, reviews and ratings – into their daily business practices online."

The survey collected opinions both online and offline from purchasing managers and suppliers from shipowners, managers and suppliers during and after the IMPA 2011 exhibition and conference.

"We have seen a very noticeable shift in attitude in the understanding of the benefits associated with e-commerce. People are no longer asking why they should use it but asking how they can use it to gain the biggest advantage. This is a seismic change," adds Mr Warner.

With more than **500 vessels served**, On-Waves is the **World's leading Maritime GSM Provider**

Inquiries: info@on-waves.com **www.on-waves.com**

on Waves *where to next?*

Commercial Shipping • Offshore, Oil & Gas • Fishing Fleets • Cruise & Ferry • Navy & Army • Remote Terrestrial Locations

NYK launches CO2 e-calculator

www.nykline.com

Japanese shipping company, Nippon Yusen Kabushiki Kaisha (NYK), has announced that it has developed a CO2 e-calculator in cooperation with Yusen Logistics.

The NYK Group CO2 e-calculator (where the 'e' stands for both 'electronic' and 'emissions') is now available on group websites.

The system, a first for a Japanese shipping company, calculates the approximate amount of CO2 emitted during cargo transport by a containership or airfreighter.

The NYK Group CO2 e-calculator has also received third-party verification from Lloyd's Register Quality Assurance (LRQA) Japan to certify its accuracy.

NYK, having previously responded individually to inquiries from customers regarding data on the environmental impact of cargo transport, especially CO2 emissions, decided to develop a tool that could allow end users to conduct these calculations themselves.

The English e-calculator interface is now available on group websites and includes functions to determine CO2 emissions from cargo transport throughout an entire route, from loading to unloading, and from the place of cargo acceptance to the delivery destination. The calculated CO2 emissions results can also be downloaded.

The system can be accessed at www.nykgroup-e-calculator.com.

The CO2 calculator can be accessed via the NYK website

Paramarine for Keel Marine

www.grc.qinetiq.com

Keel Marine is to replace its in-house developed ship design software with the Paramarine system, developed by QinetiQ GRC.

An updated version of Paramarine has recently been launched, which the company says will help to extended the software's functionality with improvements to its reporting, concurrent design and documentation capabilities.

"Migrating from our in-house developed software and selecting the most effective and efficient ship design packaged software has been a decision of fundamental importance to Keel Marine," said Paul Read, technical director, Keel Marine.

"Following an exhaustive review of the market we selected Paramarine because it provided us with all the functionality we were looking for in the design of commercial vessels."

"Paramarine is easy to use, fully integrated, fast and built on a modern platform and is supported by a comprehensive range of services."

Videotel launches new training programme

www.videotel.com

Videotel has announced the launch of its new programme, Boarding and Leaving a Vessel at Sea. The programme is designed to mitigate the dangers of boarding and leaving a vessel at sea or anchorage where a missed step can mean fatal accidents.

This programme has been designed in conjunction with BG LNG Services and aims at raising contractor awareness of safety standards and other issues, and ensuring a more consistent quality of service among third-party suppliers.

Videotel's new programme is targeted at all maritime professionals needing to board or alight from a vessel at sea but, addressing a range of maritime safety regulations, it is expected to be especially valuable for those joining a ship for the first time.

Boarding and Leaving a Vessel at Sea features six stand-alone sections on the boarding process and is available in VHS/DVD, via interactive CD-ROM and on Videotel's computer delivery system Videotel On Demand (VOD).

"Seafarers often have to deal with hazardous situations before they even get onto a vessel," says Nigel Cleave, CEO of Videotel Marine International.

"Not only is the actual boarding itself sometimes difficult and hazardous, but the equipment – from the launch itself to the personal protective equipment (PPE) supplied – may not meet required standards. This is especially hard to control when contractors and third parties are involved."

BMT Asia Pacific, a subsidiary of the BMT Group, has appointed Per Røed as its managing director. Mr Røed was formerly head of Vessel Newbuilding at **AP Moller–Maersk** in Singapore. In addition, BMT has also promoted Anil Thapar, who has been with the company for nine years, to deputy managing director.

Veson Nautical has appointed John Carver as its new regional manager for the Asia Pacific Region. Mr Carver will lead Veson's Singapore office and team, having previously worked at **Oracle** and **Sun Microsystems.**

David Hardy has joined **ShipServ** as chief marketing officer. He comes to ShipServ from UK digital marketing agency **bigmouthmedia**, where he was group marketing director for three years, and has also worked at Marks and Spencer Money, Hilton Hotels, HSBC and American Airlines.

Videotel Training Services has been awarded **UK Maritime and Coastguard Authority (MCA)** and **Liberian Flag (LISCR)** approval for Hygiene Training across its computer based training (CBT) programs for ships' cooks and galley staff, as detailed in paragraph 2 (C) of Standard A3.2 of the Maritime Labour Convention 2006.

www.bmtasia.com.hk
www.veson.com
www.shipserv.com
www.videotel.com

DNV deploys 2,000th Navigator

www.dnv.com

Det Norske Veritas (DNV) has announced that the 2,000th certificate for its Navigator software system has been issued, for an installation on the 3,500 TEU container vessel HS Chopin at the port of Hamburg.

DNV's Navigator is designed to simplify port clearance procedures and to ensure that the crew have the information needed for any port in plenty of time before the ship arrives at it.

"Ever since the tool was introduced back in 2002, our intention has been to ease the process of port clearance. Navigator is 'an all in one' system reducing paperwork with more than 90 per cent related to port arrival and departure," says Odd Arne Haueng, head of DNV Maritime Partner.

"The captain and his crew's main focus should be on safe and sound navigation – not on paperwork and bureaucracy."

DNV says that, based on almost ten years of experience and ships of all types and sizes using the tool, it has been shown that the amount of paperwork is reduced by up to 90 per cent.

Information about main ports and terminals is updated in the software, with more than 1,200 port clearance forms containing ship information pre-filled. Navigator also contains checklists, a nautical library, data logs for the reporting of forms, environmental documentation and references to regulations.

The HS Chopin will also use the passage planning and work and rest hours reporting functions, which are the latest additional support tools available through Navigator.

"I'm really looking forward to using this impressive tool. The tests we have done and the experience we have gained have been very positive. I found this program to be the best of its type that I have seen," says Lawicki Marek, master of the HS Chopin.

The container vessel HS Chopin was issued with the 2,000th certificate for the DNV Navigator software system

Connecting Oceans

A world leading satellite operator with 27 satellites, Eutelsat has pioneered the development of today's maritime telecommunications and continues to build its success on the reliability of its in-orbit resources, its expertise and continuing commitment to innovation. Our VSAT technology provides corporate class networking services, interconnectivity and real-time data applications for all business, leisure and crew welfare needs.

Création graphique : © 2011 EZZ-THEIC

- Ku band Regional and Global coverage
- Dedicated bandwidth – flat rates
- VPN, VoIP and video applications

eutelsat
communications via satellite

Tél. : +33 (0)1 53 98 47 07
maritime@eutelsat.fr

VSTEP enhances anti-piracy training

www.nautissim.com
www.vstepsimulation.com

VSTEP has announced further enhancements to its simulator software, NAUTIS Naval Task Force, designed to provide anti-piracy training as well as critical response training to possible piracy scenarios.

NAUTIS Naval Task Force can be used for identification of suspicious behaviour of approaching vessels (using visual identification, AIS and ECDIS) as well as pirate response training.

VSTEP says that the software's scenario editor allows for the addition of different types of motorised pirate vessels and a fully adaptable approach route.

The program enables crew to determine and train navy and target vessel response strategy, with helicopters and a range of different navy and coast guard intercept vessels available for simulation.

Shipadmin software for two ships

www.shipadmin.com

The offshore supply vessel REM Fortress, operated by REM Offshore, and Aker BioMarine's M/T Saga Sea are to implement the Captains Secretary software system from Shipadmin.

Measuring 85m by 20m and having a deck space of more than 1000 square meters, the REM Fortress is the latest addition to the REM Offshore fleet.

This Wärtsilä VS 485 designed vessel is a sister ship of the REM Commander, which was delivered in June of this year.

M/T Saga Sea is one of Aker BioMarine's krill trawlers operating in the Antarctic. The vessel employs a new harvesting technology for krill harvesting challenges, called Eco-Harvesting.

Eco-Harvesting allows the fishing net to stay under water during the entire operation, with the krill then filtered at the end of the net and pushed upwards through a flexible hose, with air injection creating the upward lift.

BIMCO releasing first version of the EEDI Calculator

www.bimco.org

The Baltic and Maritime International Council (BIMCO) has announced that development and verification testing for the first version of the BIMCO EEDI Calculator is now completed.

BIMCO has developed this calculator for the Energy Efficiency Design Index (EEDI) to assist its members calculating EEDI and plotting a ship's index against the relevant ship type specific regulatory limits imposed by MARPOL Annex VI.

The EEDI Calculator is an implementation of the calculation guideline contained in IMO Circular MEPC.1/Circ.681. The calculation guideline is still being reviewed by MEPC, and BIMCO will issue updated versions of the EEDI Calculator as amendments are published in the future.

It hoped that the EEDI calculator will make EEDI performance of known ship designs more visible, as well as providing an easy way to assess changes in EEDI when design parameters are altered.

The EEDI Calculator is available from the BIMCO website for download.

Valencia container terminal to use TSB's CATOS

www.tsb.co.kr

Total Soft Bank (TSB) has announced that the company has signed a contract with Mediterranean Shipping Company Terminal Valencia (MSCTV) to supply its CATOS solution.

Valencia is the busiest container seaport in Spain and MSCTV is the second largest container terminal in Valencia, having passed 1,200,000 TEUs in 2010.

CATOS will replace the MSCTV's existing terminal operating system (TOS). The newest version of CATOS includes localisation support and uses web application interfaces to speed up work processes.

"We are delighted to enter into another new business with MSCTV through our flagship product, CATOS," says J.S. Choi, CEO and president of TSB.

"Making the best use of our abundant experiences in Spain, we will not spare our efforts to help MSCTV reach the targeted goal of operational efficiency and level of customer service in coping with the continuous volume increase over the years to come."

Marine Software supplies MSDM to Drent Beheer

www.marinesoftware.co.uk

UK-based Marine Software has announced that the company has won a contract with Dutch owners and operators of specialist heavy lift dry cargo ships, C.T. Drent Beheer B.V.

Under the agreement Marine Software will supply the Dutch customer with an integrated Marine Safety & Document Manager (MSDM) software package.

The software has already been installed at Drent Beheer's Delfzijl Netherlands office and will further be installed onboard the vessels MV Kent Sunrise and MV Kent Sunset (DWT 12,000) after direct database uploads from existing Word, Excel and PDF document formats has taken place.

All controlled documents and safety information will reside in the main system index, where data transmission exchanges between ship and shore will ensure the latest document revisions are immediately available on board the vessels.

Audit trails are displayed for each transmission which ensures office and ship personnel are in control of their safety management documentation.

The Kent Sunrise will implement the software package

CBT for Consolidated Marine

www.seagull.no

Consolidated Marine Management (CMM) has agreed a deal to implement the Seagull Training System (STS) across its tanker fleet, as well as at its head office in Greece and manning office in the Philippines.

CMM, operating a fleet of product and gas carriers and also running a new shipbuilding programme, said that the adoption of the training package was part of its focus on quality, integrity, safety, health and protection of the environment.

CBT will be made available across the tanker fleet

The STS can be delivered as a laptop or desktop computer which is pre-loaded with a package of training tools, including a Computer Based Training (CBT) library and the Seagull Training Administrator.

The complete STS package is available online and can be integrated as an onboard and online software solution.

CMM will also be using Seagull's Crew Evaluation System (CES) Online in their offices in Greece and the Philippines. CES is a computer based knowledge evaluation tool that consists of a database of several thousand questions, which can be used to assess the background knowledge of crew members (Deck, Engine and General Services).

CMM will customise the CES questionnaire to the requirements of its own safety management system.

WRSystems signs Maersk for Emsys

www.emsysmarine.com

UK-based provider of maritime navigation and communications equipment, W R Systems (WRSystems), has announced the signing of an agreement with AP Moller-Maersk for the supply of its Emsys laser-based Emissions Monitoring System (EMS).

The EMS is supposed to supply the AP Moller-Maersk vessel Maersk Kalmar with emission verification in support of on-going fuel trials onboard. The installation is part of a wider project between Maersk and the US Navy to test biofuels on their long-term suitability for maritime applications.

The agreement is result of successful trial installations on two US-based Maersk container vessels, which were used to prove system efficacy and aid the marine Type Approval process under the supervision of the American Bureau of Shipping (ABS).

The Emsys system will collect emissions and Particulate Matter (PM) data. This data will be included in a performance report to be prepared by Maersk and audited by Lloyds Register (LR).

Data collected will include Nitrogen Oxides (NOX), Sulphur Oxides (SOX), Carbon Dioxide (CO2), and PM. Additionally the report will detail findings on the effects of biofuels on the engine's fuel system performance and normal wear and tear.

The Emsys system measures emissions by Quantum Cascade Laser (QCL) technology. PM measurement takes place outside the stack, which allows a single optic to measure multiple stacks.

WRSystems says the system is 'maintenance free' and that measuring the exhaust gas 'hot and wet' also removes the requirement for costly gas conditioning equipment.

The system carries full Type Approval from ABS for MARPOL Annex VI NOx and SOx regulations. It has been tested and Type Approved for the measurement of PM, Mass Emissions, and the CO2 Operational Index, as detailed in IMO Circular MEPC 471.

From ship to shore,
simplicity is the key to success.

20 years experience. 1 simple solution.

- Type Approved PMS
- Minimal Training Required
- Rapid Technical Support Service
- No ‘Per Seat’ or any Annual License Fees
- Global Customer Base from VLCC’s to Workboats
- Complete Package or Single Modular Components available
- PMS, Stock, Procurement, Dry Dock, Safety & Document Management Solutions

Visit **www.marinesoftware.co.uk**
or email **info@marinesoftware.co.uk**

MARINE SOFTWARE LIMITED

Years of experience with ship management software

Saving time and money are amongst the key factors when shipping companies buy ship management software. Four shipping companies from around the globe shared their insights and experiences of using ship management software to improve their businesses with *Digital Ship*

In September 2011 shipping companies from all over the world flocked to Houston, Texas, to engage in an intensive three day exchange of ideas, experiences and recommendations in the field of maritime software at the ABS Nautical Systems (NS) annual user conference.

This user conference has been running for 12 years and serves a dual purpose of introducing changes and innovations to the ABS NS5 system to the users, while also using the opportunity to draw on those users' experiences, criticisms and suggestions for further improvements.

This year's conference saw NS introducing its new NS5 Enterprise version. In the course of development of this latest edition of the application, NS took a new approach to usability – instead of testing the software in-house, NS hired a usability research company to test the software with NS customers.

The company believes that this approach has helped to focus development on how a user would employ the software, rather than a software engineer. During the vetting phase, a potential user would, for example, be shown an interface and asked what a certain button should do in order to address his actual needs and experience.

So software users have been a major focus of ABS-NS' latest software project – but how have those users' experiences of the previous generation of the software shaped their shipping operations to date?

Bernhard Schulte, APL, Seaspan and Humboldt are long standing customers of NS, and have watched the company grow and the software mature.

Due to the companies' varying operations, they all have diverse needs and approaches to using the systems, and these stories and experiences are exchanged once a year at the ABS user conference.

Romuald Wojtaszczyk of Bernhard Schulte, Chris Rodenhurst of APL, David Kramer of Seaspan and Carlos Beeche of Humboldt told *Digital Ship* about their expectations and demands for shipping IT, and the benefits and challenges these systems provide.

Romuald Wojtaszczyk, Bernhard Schulte Shipmanagement

Bernhard Schulte Hamburg manages over 160 vessels, and implemented an NS solution when the office was first opened in 1999. Starting with ABS Safenet 4, the company migrated to NS5 in 2006, a transformation that required a change of platform from DOS to Windows.

Except for the crewing module, Bernhard Schulte uses the whole NS5 suite fleet wide. For crewing an internal application is used, which, according to Romuald Wojtaszczyk, PMS & Project Manager, is being kept for the moment because of the complexity of the data transfer that would be involved in moving to a new software.

It took Bernhard Schulte five months to set up the NS software in the Hamburg office, during which time a variety of data were entered into the new system, such as settings, companies, vendors and ports.

To implement the software on the vessels, new databases, for the purchasing and maintenance module for example, had to be built. However, Mr Wojtaszczyk notes that this took only two months, because Bernhard Schulte utilised an NS5 function under which sister vessels can share information. This allowed the company to copy data from existing vessel databases as the project developed, thus saving time.

Through the set up phase the company says that it did experience some initial problems, and Mr Wojtaszczyk recalls that they were not resolved satisfactorily for a period of nearly two years. However, ever since these teething problems have abated the suite has worked smoothly and Bernhard Schulte has been very satisfied with its performance.

Mr Wojtaszczyk says that it takes a number of years for one IT manager to get to really understand the NS5 system and know how all the functions operate. Having said that, he notes that it is much easier for the everyday user to learn how to use the program for his work.

The company has designed a special briefing course for its seagoing staff, which is conducted by Bernhard Schulte's software experts. Any new master or chief engineer has to undertake this course (a one day course for a master, with two full days needed for the chief engineer).

'Using the suite efficiently requires a change in user mentality' – Romuald Wojtaszczyk, Bernhard Schulte Shipmanagement

A special training room at the Hamburg office features a set of computers identical to the ones used onboard for this purpose.

Despite these efforts in this area, in Mr Wojtaszczyk's experience constantly changing crews still make it difficult to keep seagoing staff up to scratch with NS5.

"Using the suite efficiently does not just require a good knowledge of the software, it also requires a certain change in user mentality, the change of habits and frame of mind," says Mr Wojtaszczyk.

To speed up the learning process Bernhard Schulte is forcing staff to use the software. One method is that the company has made all print-outs traceable. This system has reduced the paper use by half. It has further ensured that the crew fully utilises the software instead of reverting to traditional print-outs.

David Kramer, Seaspan Ship Management

Seaspan first implemented NS software eight years ago, and has now deployed the system across its entire fleet. The company uses all of the standard modules that come with the primary package, which are Maintenance & Purchasing, Dry-dock, Quality & Compliance, Crewing & Payroll.

Seaspan is further planning to implement the Document Manager module when a working version is released, and is currently also evaluating the Hull Inspection (HIMP) module.

The Maintenance & Purchasing module in particular took the company two years to fully implement. David Kramer, Fleet Manager, recalls that this delay was due to the fact that they didn't have the right guidance, either in-house or from NS, during the first phase. Even though the ships were up and running, Seaspan was not fully maximising the software's functions until after the teething period was over.

Having said that, the company emphasises that this has now changed significantly, and Mr Kramer notes that there has since been a strong Seaspan/NS relationship that has helped the company to maximise its use of the product.

Today it only takes a single day to implement NS5 when a new ship is brought into service. The company has learned to save time by creating the database beforehand, which usually takes between two and four weeks. Seaspan also utilises the earlier mentioned NS5 feature that allows for cross referencing of sister vessels, thus saving further time.

NS5 is used widely in the office and by all levels of personnel, such as assistants, superintendents, and managers. The software allows different profiles to be set up for different job functions and users.

'You have to enforce it in the beginning and make people use NS5 rather than the old paper work' – Seaspan Ship Management

Onboard, NS5 is used by officers, whose profiles are set according to their rank. The different profiles are used to assign levels of visibility as well as specific user rights.

Seaspan runs a training office in India where staff are sent for initial training prior to using NS5 extensively. A superintendent, for example, is expected to be a 'power user' of NS5 and will be sent to the training office for three to four days.

Sea going staff, on the other hand, learn to use NS5 in a day and a half. The training is a mix of instruction and self-learning. They are given a CD with NS5 Notes, detailed instructions on specific aspects of the software, and Seaspan's own 'Seaspan Shipboard User's Manual for Maintenance & Purchase and Crewing & Payroll'.

Seaspan also makes use of NS' complimentary training, but insists that the training is tailored to Seaspan's specific way of using the software. Mr Kramer notes that this also creates a good relationship between the instructor and a Seaspan power user.

"Now that this has been done, the flow of software usage is in place," he says. "In a way, you have to enforce it in the beginning and make people use NS5 rather than the old paper work, but step by step it all falls into place."

Chris Rodenhurst, APL

APL decided to install NS5 across its whole fleet in 2005 and is, for the time being, only using the Crewing, Payroll and Maintenance modules.

Onboard, APL officers use NS5 according to their rank. A restriction to only allow users from the second mate up has been imposed to prevent potential accidental changes in the data.

APL utilises the NS5 feature that allows

KVH®

KVH® INDUSTRIES MINI-VSAT BROADBAND℠

What broadband at sea was meant to be℠ – TracPhone® V7.

Dramatically cut your airtime costs and improve your ship's operations with the world's largest maritime VSAT network, **KVH's mini-VSAT Broadband℠** – the most affordable service for broadband Internet, e-mail, and telephone!

"In today's competitive shipping market, our ships, charterers and fleet managers require **secure and reliable IT networks** to support **critical business processes**. It is also equally important to **improve crew welfare** in order to attract and retain skilled seafarers. **By choosing KVH, we are gaining an affordable, comprehensive solution that brings together proven hardware, a global network, and fully integrated network management and crew welfare solutions that will support our needs for years to come.**"

– Rob Frenks, Group ICT Manager; Vroon B.V.

Fast, low-cost Internet at sea –
Rely on broadband Internet with speeds as fast as 2 Mbps down and 1 Mbps up while saving 85% or more vs. other solutions.

Crystal-clear telephone calls –
Make calls whenever and wherever you want using either of the two lines of integrated voice service optimised for maritime customers or KVH's crew calling solution.

Easy to install and setup –
ViaSat's exclusive ArcLight® spread spectrum technology enables a small 60 cm antenna with dramatically superior performance, easy installation and activation in as little as 1 day!

Find out how KVH TracPhone V7 can change your business at:

www.kvh.com/digitalship

QUALITY CERTIFIED SYSTEM ISO 9001

NMEA 2010 INDUSTRY AWARD – TRACPHONE V7 MARINE COMMUNICATIONS

KVH INDUSTRIES WORLDWIDE

World HQ: United States | info@kvh.com +1 401.847.3327

EMEA HQ: Denmark | info@emea.kvh.com +45 45 160 180

Asia-Pacific HQ: Singapore | info@apac.kvh.com +65 6513 0290

©2010-2011 KVH Industries, Inc. KVH, TracPhone, and the unique light-colored dome with dark contrasting baseplate are trademarks of KVH Industries, Inc.
"What Broadband at sea was meant to be" and "mini-VSAT Broadband" are service marks of KVH Industries, Inc. ArcLight is a registered trademark of ViaSat, Inc.; all other trademarks are the property of their respective companies. Patents Pending.

for cross-referencing inventories and equipment between vessels. This allows the company to interchange spare parts and save money on unnecessary requisitions. However, Chris Rodenhurst, Fleet Technical Information Coordinator, notes that this also means that pressing a wrong button can tamper with the whole system.

New APL masters or chief engineers visit the APL office to learn all they need to know about NS5. Mr Rodenhurst says that, over time, the training period has been shortened to just one day because the solution has become more intuitive.

He further notes that: "NS5 has almost become a standard for this kind of programme. Applying staff put on their resume that they are NS5 trained."

Mr Rodenhurst has recently designed a computer based training course (CBT) for NS5. This, he says, is a result of his previous work as an auditor, during which he found that there were people who didn't have a clue what their maintenance program did.

"For my staff to know what they are doing makes my job easier," he says. "I won't get phone calls in the middle of the night with people complaining they can't do their payroll and it turns out they just missed a little tick somewhere."

Carlos Beeche, Humboldt Shipmanagement

The Chilean shipping company, Humboldt, has been using the NS5 Maintenance and Repair modules since 2004, and is currently planning to implement more of the software package's functionality.

Carlos Beeche, Maintenance Engineer, notes that moving to the NS5 Purchasing module will require a huge data transfer from the company's previous solution and expects this to take a long time. Nevertheless, he says, this will be done internally and without the assistance of NS.

At present, Humboldt operates 18 vessels using NS5 but will deploy the software on another 25 ships before the end of 2011, thus uniting the entire fleet under one management software.

The implementation of the NS5 modules took five years says Mr Beeche, who is solely responsible for the IT system.

"NS5 is easier than Safenet, which we used before, and I do not feel that five years are a long time for one person to learn about all the different functions and possibilities of NS5," he notes.

For new Humboldt crew, such as a master or a chief engineer, it takes 15 days onboard to learn what they have to know about NS5.

"I make a trip onboard and after 15 days, it is operating completely, including all the data input and updates," said Mr Beeche.

Seaspan's seagoing staff learn to use the software system in about a day and a half

Software discussion

To further examine and compare the varying software experiences of these different shipping companies from Germany, the US, Canada and Chile, *Digital Ship* arranged a question and answer session that would allow each company to give its views on particular aspects of operation with these applications.

Below are the answers that each of these companies provided during the discussion – for a key to the abbreviated names used, please see the 'Who's who: The Panel' box above.

DS: What were the reasons to change from a conventional – paper-based – ship management system to a software-based solution, and why did you choose Nautical Systems?

RW: There is no unified software system throughout the Bernhard Schulte organisation and the different centres use a wide variety of solutions. The Hamburg centre was set up for the KG business, a German tax efficient form of investment, whereby only German investors, such as banks, jointly own vessels that are entirely operated from Germany.

Nautical Systems was chosen by the owners' office after a market evaluation in 1999. The evaluation took into account aspects such as availability and quality of support as well as growth of the software solution. The decision fell on ABS because it was regarded the best for support and growth over the last ten years.

We can confirm this; we have really good support all the time. Even though at that time we were the only big company in Germany using the whole management suite, ABS opened a branch office in Hamburg, close to Bernhard Schulte. Now other big German companies such as Reederei Claus-Peter Offen GmbH & Co. have bought NS5.

CB: Seven years ago Humboldt decided to implement NS' solution Safenet rather than continuing to use a paper based system. A client referred Nautical Systems software to Humboldt, so we had some knowledge of the company. There was also generally a good feeling in the market about Nautical Systems.

It has been a valuable tool, helping us to get organised and get more structured in the company. We have been able to downsize on resources especially manpower and related costs. There is also less use of paper and it is easier to get all the information organised.

DK: It is a no-brainer that you need software to run maintenance, to do proper scheduling, to maintain records, and to manage crewing and payroll.

At the time when we decided to implement a software solution, we felt that NS5 offered a workable solution at a realistic price.

DS: What convinced you that the ABS Nautical System software would suit you better than what was offered by its competitors?

RW: It is things such as these conferences. They have been going on for 12 years and I am attending them regularly.

What we are doing here in these groups is fantastic. We make a lot of suggestions. Not all of them are possible to implement. But whatever is technically feasible is always realised.

NS always thinks on the level of development. This means that the system is continuously growing and this really sets it apart from its competition. Nautical Systems really thinks about its users and creates its functions accordingly. You can see how they understand the customer's needs and implement them wherever possible.

As part of a classification society, ABS, Nautical Systems is always informed about new trends in the industry and in the classification process. This is very helpful for us especially with regards to the planned maintenance system (PMS) class approval, which NS5 makes a lot easier.

With NS5 the class surveyor comes only once a year for annual class confirmation and everything that was done last year can be checked in the software. This saves a lot of money.

We feel that Nautical Systems is a really good company and they are doing a great job for users. Sometimes they might not be successful, but they think about the problem and in the end there is always a solution.

CR: NS5 is still growing and their expertise is good, especially the mechanical part, eagle.org.

The fact that Nautical Systems is backed by a classification society, ABS, makes them preferable. A lot of people don't know what a ship is. So if you have a strictly software program that is built on shore and the developers have never seen a ship then it is difficult to get it right.

And you notice if the writer of software has been on a ship and knows what he is doing. We ripped the software apart bit by bit and had a good look at it. You could tell that it was done in teams. And some teams maybe knew what a ship was but then the other team didn't. So, yes, being associated with a classification society is very helpful.

You have to have a maintenance partner by international laws. With NS5 the work flow has become a lot easier and to do it on a piece of paper would be probably more costly. A superintendent, per hour, costs a lot of money. We save on man-hours and also in general. That is the bottom line, it saves us time.

DK: NS5 might not be the best software but it does what it needs to do, it covers all the essentials of the business process and we make the best possible use of NS5 as a one-stop-shop solution.

Nautical Systems portrays an objective of understanding the client, and as best as possible, meets the client's needs. The company has been willing to listen to feedback and has been very good at improving and at taking in new ideas and concepts.

Change and improvement has always been on the agenda. However, sometimes these changes haven't been fast enough and they have tried to grow too quickly which resulted in them not getting the basics right in some cases.

Having said that, in the more recent past, they have got on top of faultless development and they now manage the development in a far more mature manner. Now they develop new features whilst at the same time making sure that the existing features remain operational.

They are affiliated with a classification society, ABS. That's a unique position, for a provider of ship management software. The difference is that a classification society is under no circumstances going to disappear. The classification society will ensure that NS grows as should NS5 collapse, the classification society will lose a

Who's who: The Panel

The panel consisted of (abbreviations in brackets):

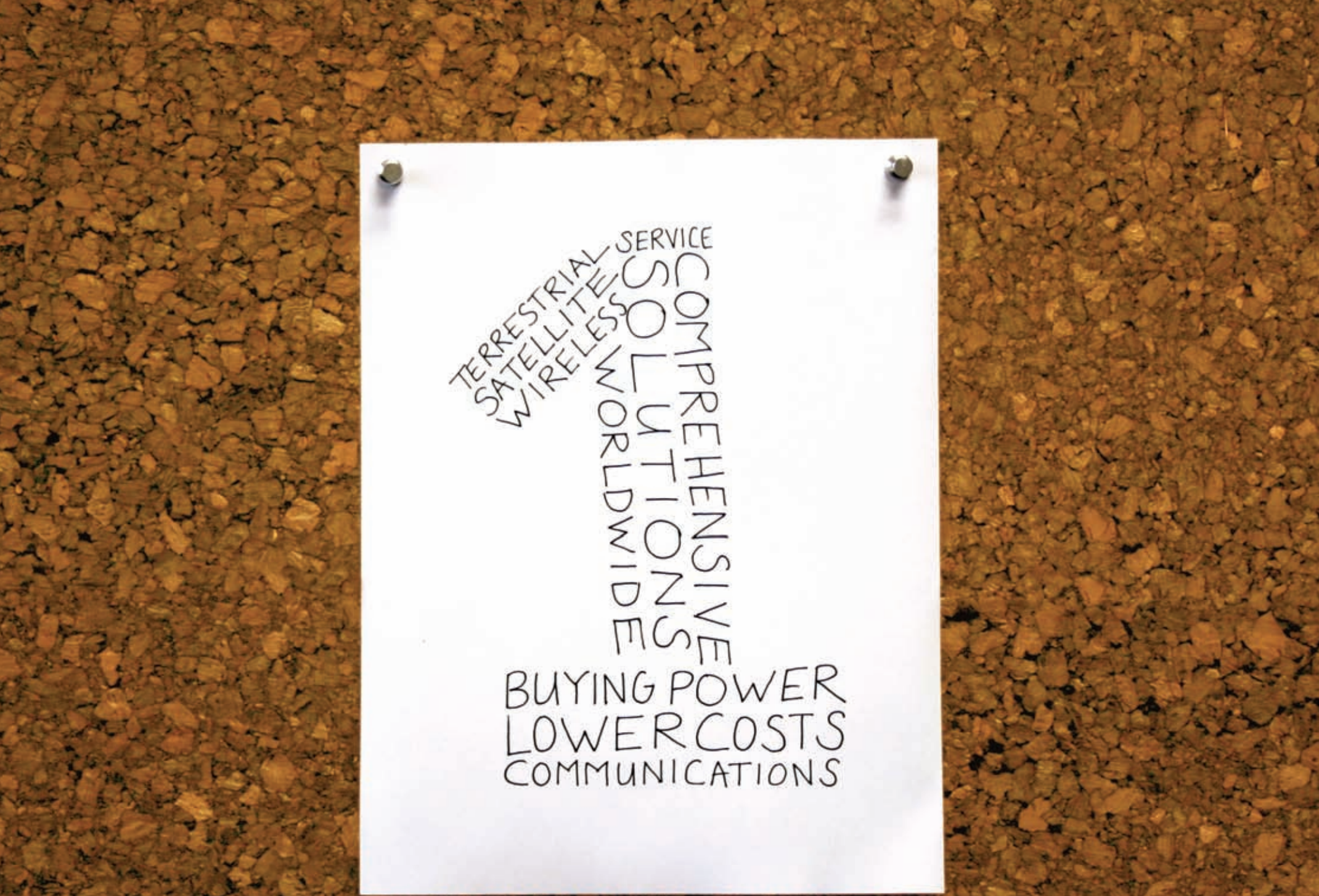
(RW) - Romuald Wojtaszczyk, PMS & Project Manager, **Bernhard Schulte Shipmanagement, Germany**

(DK) - David Kramer, Fleet Manager, **Seaspan Ship Management, Vancouver**

(CR) - Chris Rodenhurst, Fleet Technical Information Coordinator, **APL, United States**

(CB) - Carlos Beeche, Maintenance Engineer, **Humboldt Shipmanagement, Chile**

(DS) - **Digital Ship**



We put it all together so you don't have to.

Perhaps you've heard about Harris CapRock, the new business from Harris Corporation. We're the largest business focused specifically on providing remote communications — one reliable resource for everything satellite, wireless and terrestrial.

That means you'll never have to manage multiple vendors again, saving you operational costs. Also, having one source means all your communications components will work in concert together to significantly lower network complexity and save you time and money. Finally, as the largest purchaser of satellite capacity, Harris CapRock puts buying power on your side for lower bandwidth costs.

When you stop to think about who's best equipped to handle your remote communications, it all adds up to one. Harris CapRock.

www.harriscaprock.com/maritime-ds

HARRIS CAPROCK™

RELIABILITY NEVER REACHED SO FAR™

© 2011 Harris CapRock Communications, Inc. All rights reserved.

number of its clients. It gives credibility to NS5 and it gives certainty to the clients.

DS: How has using software helped to improve your company's operations?

CB: Implementing NS5 has primarily helped us to better organise ourselves. Another advantage is that some nationalities, especially the Russians, more easily manage their vessels with NS5 than without.

Humboldt is part of Ultragas, a subset of companies that manage different types of vessels in their fleet. With NS5 the organisation has a common operating system that allows us to interchange information within the organisation on the different vessel types. So that makes it easier for all the companies.

NS5 has a function that allows to cross-reference information between sister vessels in the database. We are able to transfer information within Ultragas when vessels change ownership or management within the organisation. It is a time and money saving process.

For example, we have four Panamax vessels and we have been able to take the information from one vessel to the other. The same applies to the gas tankers.

DK: NS5 has helped to reduce our paperwork. We have more control and the visibility is much greater. It is much easier to find documentation and to manage the ships. The benefit with the software lies in being able to measure efficiency, improving visibility, the ability to find information more rapidly, to track problems, and to manage projects more efficiently.

Also, having one main software solution allows us to become more proficient in the NS software than if Seaspan had a number of different software solutions. The software is saving Seaspan time as well as keeping the head count down.

NS has put more focus into the maintenance and purchasing module, that is the most mature part of the software. The crewing & payroll module has also added great benefit to us. There were areas in the crewing module which needed a lot of attention, but NS has given the crewing module the necessary attention and numerous fixes have been released.

The next module that we will be using in a greater scope than we presently do is the quality and compliance module. This module needs further refining in the logic and process flow. It seems that more theory was applied than actual usability in developing this module.

The dry-dock module has also added considerable benefit in improved dry-dock management, from the job descriptions, to financial management and reporting.

It is difficult to determine a return on investment (ROI) as Seaspan wasn't using any software before NS. It is clear though that companies that run a paper-based system need more staff in the office to manage the business process, tracking, and paper flow.

The use of software is often a catch-22 between what is needed and what can be done. This is because it is easier to do record keeping, tracking, statistics, etc with software than a manual process and hence more is demanded from the software than the manual system.

With respect to savings, I would say that better business processes have given savings on time and personnel.

CR: We didn't have a choice. Prior to what I do now, I was a senior marine inspector to the government. I would to audits on maintenance programs and they would simply not work. NS5 is one of the better off-the-shelf programs available. You can get a better custom program, but not by much.

RW: For us, the Purchasing module has the greatest impact. In Germany, manpower is very expensive and the costs for a purchaser in a lot of other Bernhard Schulte centres are about 50 per cent lower. On top of the salaries come the high German social costs, a position that is a big factor for a company.

With NS5, our purchasers can operate ten vessels at the same time without doing overtime, whereas before they could only operate four, maximum five.

We combine NS5 with ShipServ's procurement system. We have tested this and it is working perfectly together because any changes in the interface are, as ShipServ is a strategic partner of ABS, done at the same time and in tune with NS5 and never affect the user.

Sister vessels in the Bernhard Schulte fleet can benefit from a sharing function that can speed up the creation of databases

Quotes, requested through ShipServ's system, for example, are automatically and seamlessly uploaded into NS5. Also, vetting inspections are no problem with this fully electronic system.

Another huge advantage is that there is no paperwork anymore. Everything is digital. If you come into the office in Hamburg, all you will see on the shelves are the vessel manuals. And we do something for the environment.

It is also smaller things that help us. NS5 features an export option supporting all conventional formats. This helps us a lot since we use three different financial systems; our group system, Navision and our old accounts system, and are thus able to export our financial documents in a chosen format.

No other system on the market supports this variety of formats and usually only one export format is offered. It means that one has to build a system to convert to the needed format. This is useless because too many conversions make room for mistakes and data loss.

Through the implementation of the Purchasing module there is a very fast ROI. It allows us to substantially save on manpower. With NS5 we have been able to reduce the amount of purchasers per fleet from 6 to 3, which is a reduction by 50 per cent.

We do not even need backup staff for emergencies or to cover holidays since under NS5 our purchasers are able to take over the vessels of another purchaser on the short term. This has saved us a lot of money and it is really working well.

DS: To what extent has your company chosen to customise the software, and has this been done to your full satisfaction?

DK: Customising software is probably the most costly thing you can do to a purchased software package. If you want to customise the software, then why buy somebody else's software? You will be paying for any little change that you want to be done to the software, which makes upgrades of that software harder as well. You are going down a very slippery road with customisation and to me it just never stops.

Seaspan does customise, but in a different way. We look at the software, find out what tools there are, and look at ways in which the software and tools can be applied so as to use them to their full potential. We are using parts of NS5 to make them cover work processes other than those that they were originally intended to do, to suit Seaspan's needs.

We are using one part of NS5 in five different ways to serve five different needs, instead of five different customised software packages or paid for updates to NS5. This requires us to think more and to see the concept behind the functions. In this way, customisation doesn't cost.

As an example – NS5 calls a particular document a 'work order'. We find out if we can rename that document or use the same format for a different purpose from what the software designers intended. In most cases the answer is yes.

CR: We have customised the software in the replication cycles. And I wrote some special scripts that we wanted. The underlying piece of the software we don't play with. That's because it is very risky to change things, lest you might break them. Also, if you do, every upgrade has to be changed as well. And if you break it you might as well find another job.

RW: We are mainly customising what is done outside NS5. We prefer to stay close to the original NS5, since the administration for our more than 200 vessels is demanding, especially if every new patch has to be specially configured.

There are several examples of how we customise around NS5. Having said that, Nautical Systems has also done some customisation for us.

As an example – prepayments must be registered on a dedicated prepayment account and not on the equipment account. Only after the final invoice has been received the whole amount is to be registered on the equipment account, whereas the prepayment account has to be reset to zero. For that Nautical Systems has created a hotfix for us allowing us to add negative amounts to our documents, thus solving the prepayment problem.

NS5 has given us about 90 – 95 per cent flexibility to change modifications of the system and make it fit for what we do and need. The remaining 5 – 10 per cent cannot be modified because it is an out-of-the-box system.

DS: Nautical Systems has run user conferences for the last twelve years, encouraging customer feedback. How well and to what extent has your feedback been implemented?

CB: We have many relevant examples of Nautical Systems integrating our feedback. I go to the user conference regularly and give plenty of suggestions.

One particular one is a port category library search within NS5 which I suggested in 2009. And in NS5-5 that changed and was implemented by NS. I was satisfied with the speed of the implementation as well.

DK: NS has user committees and a web based reporting tool for problems and suggestions. In software development, it is important to see that the clients understand the intended direction/course of the software and that this will meet the clients' needs.

NS makes the effort to achieve this. It is an aspect that they have improved on and they are making sure that they are getting the user feedback. NS takes a beating at the user conferences with a smile and gives constructive feedback as to how they intend, or don't intend, to move forward on specific issues. There is a good developer/client interface which benefits both parties. I do not know of another ship management software developer that does similar user conferences.

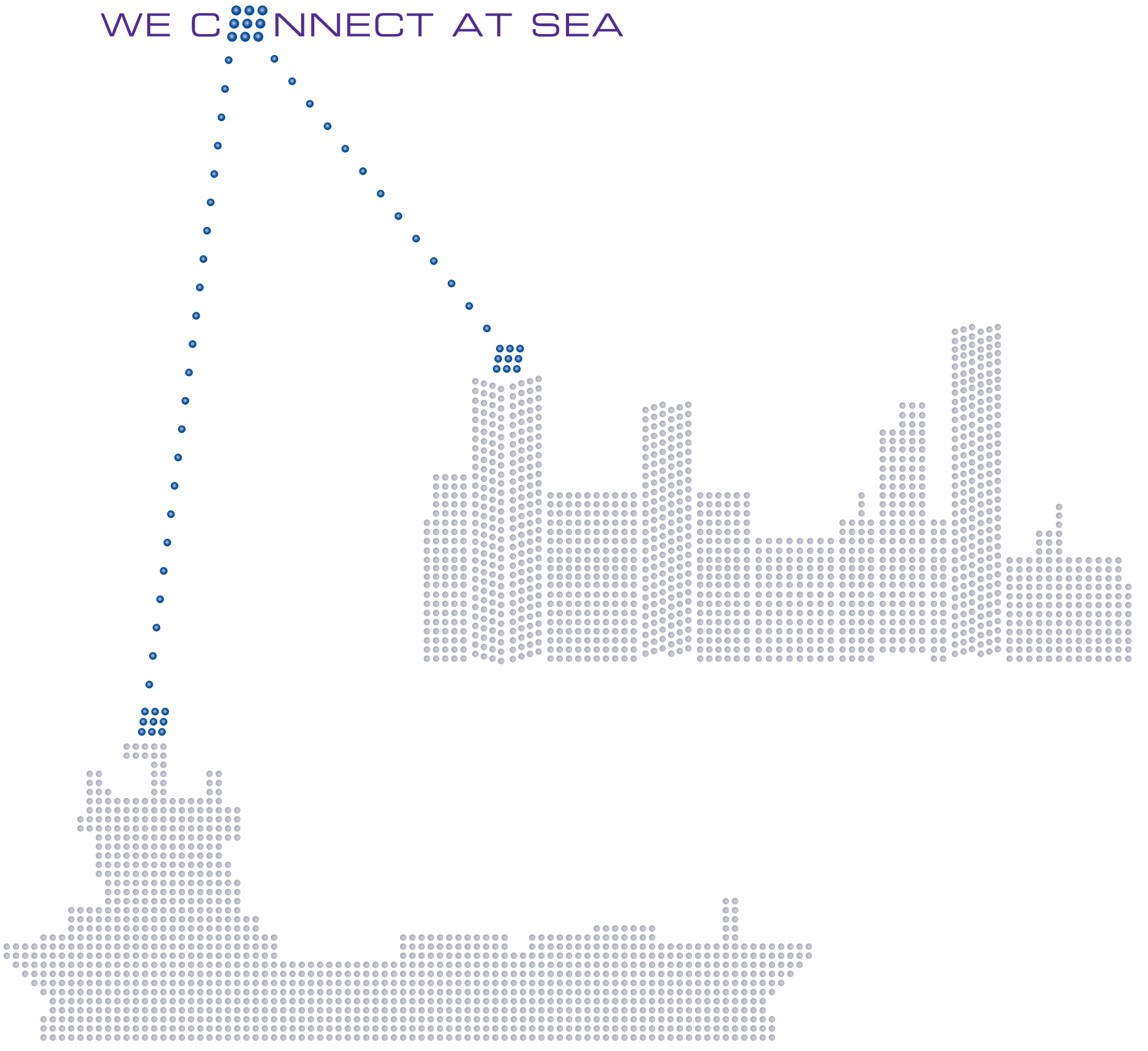
As to Seaspan's suggestions or enhancement requests to the software, I could talk about all modules and say that Seaspan has played a part in the enhancing/fine tuning and input to specific aspects of the software in numerous areas.

The Dry-dock module is a good example of where NS worked with a client team and implemented clients' suggestions before and after the software was released; Seaspan played a part in this.

There is a feature all over NS5 where a little screen is pulled up when you click on a black arrow on the right hand side. If you click over the arrow, whatever is on

RADIO HOLLAND CONNECT: AIRTIME ANYWHERE

WE C NNECT AT SEA



FOR ALL YOUR
C NNECTIVITY SOLUTIONS

www.imtechmarine.com

Design by superyachtart.com

Radio Holland
AN IMTECH MARINE COMPANY

Imtech

that screen list can either be printed to PDF or screen, or exported to Excel. Basically you can get a list of information into Excel. This seems like such a simple feature but it has given greater manipulation in reporting aspects.

Some of the updates/enhancements are very small, like an extra column. NS may come back to us and say that that enhancement is just too small and that no other clients want this update, or they come back to us and appreciate that something was identified which nobody else has identified, but which actually makes a lot of sense for a variety of users and thus it will be implemented.

Sometimes they come back to us and say, if you want a particular enhancement then there will be a charge for it, and at other times they implement it because they see it will improve their software suite for a lot of other customers. That's a very fair relationship.

RW: In the new NS5 Enterprise version there is a very large enhancement. It is a function for budget control, especially introduced for ship management companies. We worked on this with NS.

For ship management companies the vessel operation costs are limited to the fee they get from the owner. Therefore these costs have to be closely monitored.

NS has implemented a very strict approval process for us. According to rank of the staff there are limits up to which they can approve of orders. A superintendent may be entitled to approve of investments of up to $10,000 USD, a fleet manager of up to $20,000 USD and everything above goes straight to the financial manager, who controls the cash flow and has an overview of the fleet's expenses.

This implementation was done for us by NS without any additional costs, because they realised how essential this function may be for their other customers.

CR: NS does a good job cataloguing it. You hear a lot of "I told you this last year and the year before". They do a really good job of collecting but we have rarely seen anything happening after and it takes too long.

They know what we want but they haven't always been able to implement it. But this is something they are changing now. They are bringing in an extra BETA testing step before the software is released to the clients and they have also changed their customer service

NS is also employing additional staff, which raises our hopes that in the future our suggestions will be addressed and implemented faster.

DS: How has the crew reacted to switching from conventional paperwork to a software based solution?

RW: It has been the same than with any system. There are some people who are very happy and there are some who are not happy. In general we have no problem with highly educated seafarers.

Usually it is easier for younger people. But it seems to be dependent on age as well as on the cultural background. In our Eastern European offices we have very good old engineers, but with regards to the computer-related tasks we had to start training them from scratch. A few years ago some even didn't know how to use the mouse. But we found a way to train them so all of them are able to use NS5.

There are, however, problems with the crews being educated on courses only. We have extended the training for them and it works well now. We have noticed that we need for them to implement whatever they learn into reality. Then they remember. After the extensive training we have good results with them in NS5.

CR: In the beginning some were resistant but after a couple of months everybody was ok. Now they like it in general. There is a huge difference between younger and older staff though. Older captains only do enough to do what needs to be done. Younger guys like to play with it and want to make it better and that's scary, because it risks the whole system.

DK: For the crew the software system is not an issue. It has happened over years. Software on ships has been around for more than fifteen years in various forms and there has been a gradual change from conventional paper work to electronic work. There is no real resistance to it.

In the early days of software implementation there was some duplication of work, but 90 per cent of the duplication has been cut out. The approach to adopt needs to be, "If you do it NS5 then you don't do it anywhere else".

Personnel ashore and at sea in today's world have to use software whether they like it or not. Most have adapted or have accepted it without question. It is what it is, get on with it, or don't work here.

Most personnel see the advantages of using software and in many ways they would like to see more things in NS5. One of the aspects to deal with is that NS is a very big system with many functions, so there is only so much you can train your staff and only so much that can be expected from them.

It would be great to do everything in the software but it's just not realistic. Seaspan's focus is on the core aspects and the core functions that are needed by ship staff and office personnel and it is ensured that they do those core functions.

DS: How do find the Nautical Systems support and, if you had problems, how have they been dealt with?

DK: Support has generally been good. It has gone in waves because NS have been busy trying to release a new version of the software. However I find this understandable. Occasionally the slow support has had an impact on work flow, but when we have had a real issue, support has not been lacking and they have been quick to resolve the issue.

If there has been a problem that has stopped us working in the office then they have been there on the day, either on the phone or physically at our office when needed. They have worked with us to resolve the problem. This interactive support has been great.

As with any software, you might get a fix or a release that actually doesn't fix things but breaks something, in these cases a hotfix has been released the next day or very quickly.

We haven't had anything that has stopped us working completely, but there have been issues that have caused us headaches. NS has been quick enough to respond and they haven't left us dead in the water.

RW: I am happy with how fast the suggestions are implemented. We had problems with a part of the software, which wasn't working well after an exchange of software versions. But ABS manages to find a solution very fast. Generally we don't have huge problems.

CR: There are a few things the software is lacking and we haven't seen these being dealt with very quickly. The software in general is a good snapshot of what needs to be done.

We had problems with how NS implemented changes. In the past NS would put a package or upgrade out that was not properly vetted. It would come to the customer almost as a BETA and it would be up to us to complain and change things. This is manpower intensive.

Nautical Systems has announced that they are going to change this now. There is to be a third party testing before the software comes to the customer, which we welcome.

DS: What trends do you foresee for the middle-term future of software development?

DK: NS has rethought its focus on how they are doing things. They have brought in a different team which is a more experienced and mature in the software. Now they are looking at the development and quality of the software in a very focused manner.

NS have now set up real testing before the software goes out to the customer. They look at how a user would test something and not how a software developer would test something. This is a very big difference in this approach to the earlier years.

They have also redistributed responsibilities for the various modules of the software, which gives ownership and credibility. So somebody is on the line if their module of the software isn't working. This has all helped in improving the direction NS is taking and I hope and believe that the development is going to be even better in the future.

The software isn't young anymore, they have a lot of clients, and they cannot afford to lose them. I expect the ABS-NS software to continue improving from where it is today.

CB: The program is very big. Therefore it has a lot of entry ways for a small company like us and offers a variety of different tools. We pick the modules and the functions within the modules that we want to use and little by little adapt the functions to how we run our business. ABS has been changing and improving rapidly and I am certain there will be more tools.

DS: What are, in your opinion, the key issues to focus on when choosing new management software?

RW: It is not so easy to answer. Firstly, the structure of a company has to be analysed and understood. Not every operation method fits in with every software solution.

You have to find out if the software can be adapted to your needs or if you are prepared to make changes in your structure. Software implementation always requires some changing of existing procedures.

DK: Any company looking at new software has to decide on what are their core needs and what do they expect out of software. If maintenance and purchasing is your major focus then a different solution might be more favourable than if you are

Launch of NS5 Enterprise

At the 2011 user conference, NS introduced the new version of its software suite, NS5 Enterprise. The company says it has made some major improvements and the next generation version is all about user experience, easy navigation and getting information fast.

Enterprise features a new user interface, which has been designed according to research done by a usability research company hired by NS in 2010.

This company worked with a broad selection of new and existing NS clients, gathering their feedback on numerous critical software performance elements, such as user experience, navigation, speed and reporting, which was used in the development of the new application.

NS says it regards the user interface as the 'business card' of the software that can make it or break it, and has therefore tried to make it as intuitive and attractive as possible.

The Enterprise version is more personalised than previous versions and allows the client company, as well as the individual user, to make their own mark on it.

Every user has a personal user profile. When they log-in they see a dashboard that only displays the parts of the software that they need to use and are allowed to access. The dashboards also allow users to examine Key Performance Indicators (KPIs), including fleet-wide data for maintenance, supply chain, safety and personnel records.

This personalisation is hoped to make the user interface easily manageable and less crowded, thus reducing the time it takes to get to grips with the software. The user profiles stay the same when crews change vessel, again reducing the amount of time spent on familiarisation.

This way, functionalities can also be added at a later stage, when the user has become familiar with the basic interface or takes on additional responsibilities.

Another addition in NS5 Enterprise is the 'workspace' function. This is a compilation of jobs that need to be done and are specific to the user profile. Items from all modules can be dragged and dropped into the workspace.

Further new functionality allows the user to access the latest available business intelligence data and drill down into vessel specifics from a graph or a chart.

With Enterprise now available, NS says that the next stage of development it is currently focusing on is the introduction of a mobile version of NS5. ■

Globe *i*Fusion®

Communications Made Simple!

Introducing Digital Quality Voice for FleetBroadband!

- The first FleetBroadband to support multiple voice lines
- Superior voice
- Inexpensive shore to ship calling using standard U.S. numbers

Maritime Solution of the Year
inmarsat
2010

- Caller ID: incoming and outgoing
- Free onboard mobile to mobile calls
- All calling features supported from GSM phone
- Available on all new and existing Globe *i*Fusion systems

GLOBE WIRELESS
www.globewireless.com
Phone: +1 (321) 308-0112
sales@globewireless.com

just looking for software to manage quality and compliance.

Then they will have to check if the company providing the software meets the core needs and if they are met, then what other advantages might the software have that adds benefits. In a sense these are bonus points.

NS5, like most other products, is better in certain modules than in others, they are not all as good as the other. NS5 is an all-encompassing software which can meet most clients' needs if used correctly.

For us the fact that ABS has been very willing to work with the client has been very important, as has the fact that the software has continuously developed. ABS listens to its clients. They do not always implement, but they give logical explanations as to why not. In general they find a suitable solution to their customers' needs.

Within six months a company, who had not previously been using ABS, could have a very good implementation done on a number of vessels but it all depends on the commitment in the company. It has to be top down with full support. It is imperative that a fully thought-out user manual is developed for the company on their usage of the software, this will shorten the implementation phase.

CR: Importantly, a company looking into software should make sure it makes information viewable by the office and the ship, if possible within very close time frames. We replicate via e-mail, which is almost real time.

If the chief officer on the ship changes something in the system, you want it to be viewable in the office straight away or with as little delay as possible. This is especially important for emergency procurements, where near real time transfer is time and money saving.

Another issue when deciding on new software is that training does take some time. And the more complex the program, the more training is needed. A company needs to have enough time to do this. That has to be considered.

CB: For an IT officer who looks into a new system it is important to find a company that offers good support. With such an extensive suite a lot of the work time will be spent with the same people at the support end and it is important that a good relationship can develop. I spend a lot of my work time, probably 15-20 per cent, on the software solution.

NS provides this good support. For the maritime industry ABS provides a safe and secure tool. NS5 saves time and creates a more efficient environment, crews can manage more efficiently within their vessels and they can exchange information quicker. This makes operations more efficient. DS

Fairstar and Sandigan go for BASSnet

www.bassnet.no

Norwegian provider of fleet management software, BASS, has announced the signing of two new agreements with Dutch company Fairstar Heavy Transport NV (Fairstar) and Philippines-based Sandigan Ship Services.

Fairstar, a provider of marine heavy transport solutions specialising in high-value cargoes for the offshore and onshore energy and construction industries, will use the software for maintenance, purchasing, safety- and risk management, as well as crew management.

"The system is DNV (Det Norske Veritas) approved. The latest version of the system has been very well received in the market. This system will help Fairstar in executing her 'Red Box' strategy," says Fairstar fleet director, Willem Out.

Fairstar's 'Red Box Strategy' is a response to the drop in day charter rates, and the current oversupply of converted oil tankers into semi-submersible heavy transport vessels that has disrupted demand for the last two years.

"After careful consideration and comparison, Fairstar has chosen BASS to implement a Fleet Management System that withstands global demands for safe, optimised, reliable and profitable ship operations," says Fairstar's fleet manager Gerhard Quist.

"The integrated BASSnet suite enables Fairstar to remain in compliance with existing and emerging maritime regulations, and fulfils the most demanding requirements of our customers and auditing organisations."

Meanwhile, in the Philippines Sandigan Ship Services has signed up with BASS for the delivery of BASSnet Maintenance (PMS) software for its fleet of vessels.

To date, BASS' PMS (Planned Maintenance System)/ Inventory control modules have been installed on 11 of Sandigan's ships, with another 16 vessels slated for installation by December this year.

The contract was agreed following a selection process featuring BASS and five other marine IT companies.

BASSnet Maintenance is built on Microsoft .NET technology, and will operate as a planned or structured maintenance system which handles Sandigan vessels' components, spare list and job maintenance procedures, verified by a superintendent.

Vessel maintenance information is reported and accompanied by relevant data, including lists of spare parts, and transfers of materials and maintenance jobs impacting ships, as it is fed into the system. Additional information including photographs, measurements and reports are also attachable.

Once the vessel has carried out updates on the jobs completed, a replicator is run and all information is automatically transferred to the company's office database, providing a maintenance history of the vessel accessible to both personnel onboard as well as in the office.

With the use of a planner filter, jobs can be separated based on their importance ranking, and a Planner screen displays an overview of the maintenance tasks ahead, showing the scheduled jobs based on the filters that are specified.

Once a job is concluded, the reporting system offers an option to move the just concluded job to history. This 'move to history' option is controlled by the Master/Chief engineer onboard a vessel, or superintendent in the office who reviews the job reporting and makes any corrections/additions as required.

The system also offers a sub-component function, for equipment that is movable, and has its own life cycle and maintenance programme. This sub module will plan the maintenance programme for that equipment by keeping track of running hours separately, in the case of things like, for example, main engine pistons and exhaust valves.

"The BASSnet fleet management system has many features which will enable improved decision-making throughout our operations and achieve greater transparency, for internal review, follow up, reporting, and business improvement, as well as for reporting to external parties and our stakeholders," said Capt Tomoyoshi Yanagita, president of Sandigan Ship Services, Inc.

"More automated processes, less administrative paperwork, compliance, and a better understanding of how the entire fleet is run with BASSnet fleet management systems are what we hope to achieve in the long term."

ABS Nautical Systems in Star Clippers deal

www.abs-ns.com

ABS Nautical Systems has announced that it has been selected as the asset management software provider for the Star Clippers cruise line, based in Monaco.

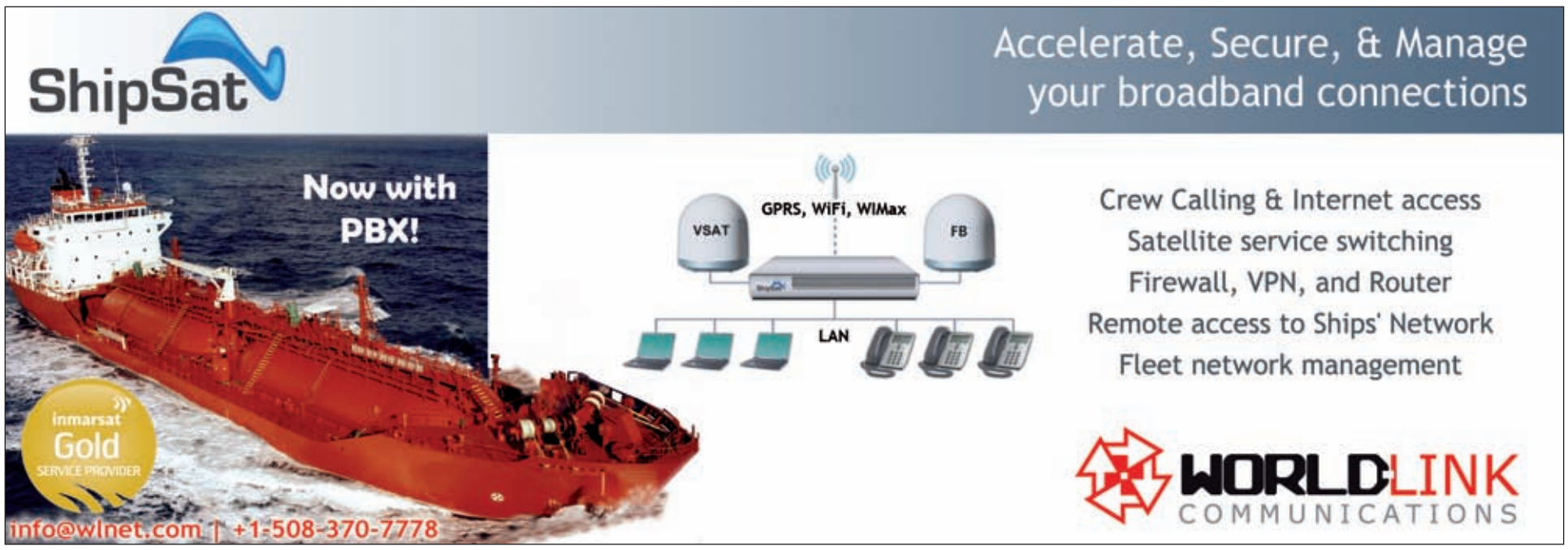
Star Clippers will implement the Maintenance & Repair, Purchasing & Inventory and Crew Management modules, as well as the accounts payable and purchasing accrual interfaces from ABS Nautical Systems' software suite, NS5.

The new system will be implemented on all three of its sailing vessels and at a central office, replacing Star Clippers current paper-based and Microsoft Excel management system.

The NS5 modules, says ABS Nautical Systems, will assist Star Clippers in recording, scheduling and managing aspects of maintenance work for the sailing ships, as well as managing transactions related to purchasing, inventory, vendor cost comparisons, and recording data pertaining to its current and past workforce.

"Our software solutions will give Star Clippers a range of improved management functions – from basic business transactions to the essential maintenance of its ships," says Karen Hughey, president and COO of ABS Nautical Systems.

"We are pleased to be expanding our involvement in the specialty cruise industry and look forward to a long relationship with Star Clippers."



One size fits all

Iridium **OpenPort®**

Iridium OpenPort enables affordable, flexible, maritime communications. Anytime. Everywhere. Supported by the world's only truly global commercial communications network — it packs a whole lot of value into a small footprint.

Backed by an industry-leading 5-year warranty and Global Service Program, Iridium OpenPort is a product you can rely on.

No matter what size the vessel or operation, Iridium OpenPort is always a perfect fit.

GLOBAL SERVICE PROGRAM
Iridium **OpenPort®**

iridium®
Everywhere

www.iridium.com/OpenPort

2012 EVENTS

Digital Ship

The world's leading conferences for information technology in the commercial maritime industry

Don't miss out on the premier events in the shipping industry: make a date in your diary for our forthcoming conferences and exhibitions

Hong Kong

USA

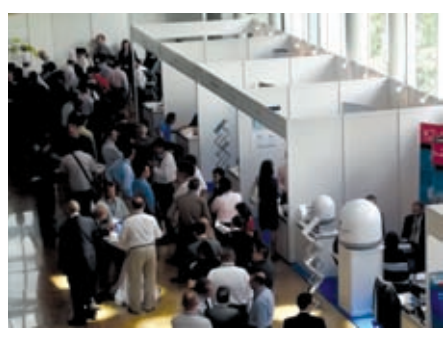
Athens

Cyprus

Hamburg

Scandinavia

Korea


Singapore

DIGITAL SHIP HAMBURG	FEBRUARY 2012
DIGITAL SHIP SCANDINAVIA	FEBRUARY 2012
DIGITAL SHIP CYPRUS	MARCH 2012
DIGITAL SHIP HONG KONG	MAY 2012
DIGITAL SHIP USA	JUNE 2012
DIGITAL SHIP SINGAPORE	OCTOBER 2012
DIGITAL SHIP KOREA	OCTOBER 2012
DIGITAL SHIP ATHENS	NOVEMBER 2012

Visit www.thedigitalship.com for the most up to date information on our events

Contact Ria Kontogeorgou, exhibition manager, to discuss available positions and rates
Tel +44 (0)20 7017 3401
Mob: +44 (0)7815 481036
email: ria@thedigitalship.com

Digital Ship Limited
2nd Floor, 8 Baltic Street East, London EC1Y 0UP, UK
Tel: +44 (0)20 7253 2700 Fax: +44 (0)20 7251 9179

www.thedigitalship.com

Transas develops Anti-Piracy training solution

www.transasmarine.com

Transas has developed an Anti-Piracy solution that will support maritime schools in performing relevant training.

The Transas Anti-Piracy package simulates a mothership, a smaller mothership and four fastboats with different speeds. The look of all vessels is typically 'pirate': badly maintained and rusty.

The fastboats have four different visual states that can be triggered during exercises to increase the threat by escalation levels from 'fisher' to 'aggressive pirate' state.

The goal is to help trainees understand what effect their avoidance manoeuvres would have and give them practice in encountering potential hostile targets, evasion techniques, communication, making contact and engaging.

During an exercise, trainees learn how to detect a hostile pirate vessel using ECDIS, radar plotting, AIS information, visual sightings (by fuel barrels on deck, weapons, type and number of crewmembers etc) and by comparison of target data with known behavioural patterns of pirate vessels.

Evasion techniques for merchant ships include avoidance of contact with potentially hostile vessels or keeping out of range of known hostile vessels' weapons using course and speed changes.

Finally, preparations, best angle of approach and practising of best course and speed decisions are included.

The simulator can create realistic pirate vessels for training purposes

If the simulator configuration comprises more than one bridge, both attacked merchant ship and assaulting pirate vessel can be loaded as own ship.

Pirate vessels as own ship can be controlled in a more realistic way to simulate typical attack patterns. This allows the bridge team to understand what effect their avoidance manoeuvres would have if the scenario is observed from the pirate's view.

"Anti-Piracy training is all about early reconnaissance and recognition and then about initiating the countermeasures and best management practice at the earliest" says Ralf Lehnert, Transas Marine Simulation Business Unit director.

"That's why we put a lot of effort into making those typical piracy attack vessels visually very close to reality and also provide realistic manoeuvring characteristics. The fact that these exercise objects can change their threat status from simple fishermen to aggressive attacking pirates during a scenario will help the training organisation to provide situational awareness training, from the early radar observation to the final visual identification."

"Our Navigational Simulator can also provide naval ships and helicopters as escort objects for Convoy sailing and communication procedure training. This is only a first start of a series of planned functionality, as we see the piracy problem and its harm to commercial shipping unfortunately not as a short term threat only."

The Anti-Piracy solution has already found its first users: the US Merchant Marine Academy, Malaysia International Shipping Company and Akademi Laut Malaysia have already started courses using this new Transas development.

Veripos signs agreement with Alphatron

www.veripos.com

Veripos has announced the signing of an agreement with Alphatron Marine BV of Rotterdam, whereby Veripos will provide 20 of its LD3 modular integrated mobile positioning units to Alphatron, which will deploy the units aboard a series of DP vessels currently being outfitted on behalf of a number of operators.

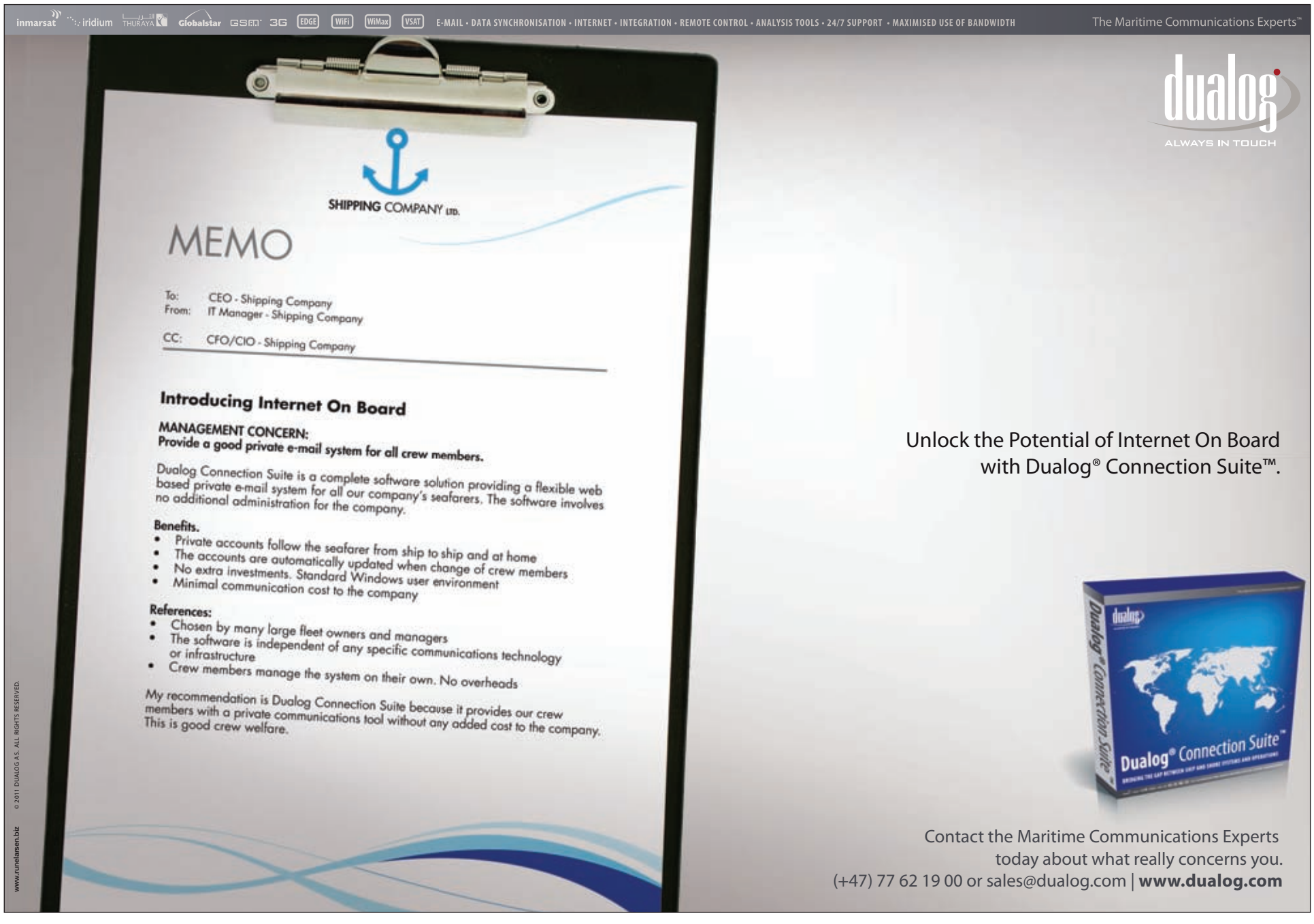
The LD3 modular integrated mobile positioning units have been designed to generate positioning from metre to decimetre accuracies and can also be used as sensors to output received data and GNSS measurements to external processing or quality control software.

They can be operated with both high and low-power satellite transmissions, given appropriate antenna configurations.

Alphatron Marine has outfitted over 415 seagoing new build vessels of all types with marine electronics equipment.

"This contract further demonstrates that our products meet the demanding requirements of the marine market whilst remaining commercially attractive," says Veripos managing director, Walter Steedman.

"We are proud to supply Alphatron Marine and look forward to serving the end users with our range of position solution services in the future."



ORBCOMM launches AIS satellite

www.orbcomm.com

ORBCOMM has announced the successful launch of VesselSat1, an Automatic Identification Service (AIS) enabled satellite built by LuxSpace Sarl.

VesselSat1 launched from the Indian Space Research Organization's (ISRO) launch pad at Sriharikota in Andhra Pradesh near the Bay of the Bengal. The satellite successfully separated from the PSLV launch vehicle in a proper equatorial orbit.

ORBCOMM is the exclusive licensee for the AIS data collected by VesselSat1.

After successful completion of in-orbit testing and check-out, VesselSat1 will expand the coverage of ORBCOMM's satellite AIS service in the equatorial region, and provide additional capacity, higher refresh rates and improved message delivery speeds for ORBCOMM AIS users.

In addition, VesselSat1 and VesselSat2, which is planned to be launched later this year, will supplement ORBCOMM's next generation (OG2) constellation of 18 AIS-enabled satellites that are currently under construction.

These two AIS-only satellites will have equatorial and polar orbits respectively, and complement the OG2 constellation.

"The successful launch of VesselSat1 into an equatorial orbit is a significant milestone in providing broader coverage, expanded data collection capabilities and higher detection rates for ORBCOMM's AIS service," said Marc Eisenberg, CEO, ORBCOMM.

"We look forward to once again delivering AIS users the most comprehensive and near-real-time coverage of any satellite system in the market and to improve the visibility of vessel activity worldwide as we continue to enhance the functionality and performance of our network."

VesselSat1 is now undergoing initial in-orbit testing and is expected to enter into commercial service before year end.

Furuno opens INS Training Centre Singapore

www.furuno.com

Furuno has opened its INS Training Centre Singapore (INSTC), to provide deck officers with type specific training on Furuno ECDIS.

The ECDIS training at the INSTC will take two days.

This new facility joins Furuno INSTC Denmark in being able to offer this type specific training, while the Danish facility also provides 5-day combined generic and type specific ECDIS training as well as Ship Resource Management training, a DNV-certified IMO ECDIS Model Course 1.27 and a DNV certified IMO IBS/INS Model Course 1.32.

"When ship owners invest their money and have their deck officers sent to the training centre for training, we have to give them satisfactory level of return of investment," says Ken Jensen, training manager of FURUNO INSTC Denmark.

"Type specific ECDIS training has two goals. One is to provide the safe operation of the equipment by giving the operator proper and thorough knowledge on the user interface and operation of FURUNO ECDIS."

"The other is to allow the operator to learn about all the functionalities and values provided by ECDIS, and how to utilise them in the daily work and ship operation. This allows the navigator to conduct his navigation tasks more efficiently. It generates a better return on the ship owner's investment in ECDIS equipment and training."

Evotec's technology will now be available to Kongsberg Maritime

Kongsberg Maritime has completed the acquisition of **Evotec AS,** originally announced in July of this year. Evotec AS develops technological management systems for the seismic, subsea and supply markets, among others.

Kongsberg Maritime has also received system Type Approval from **Germanischer Lloyd** for its Bearing Wear Condition Monitoring (BWCM) system, meaning it is now approved for use to help in avoiding open-up inspections.

The **UKHO's** chief executive, Mike Robinson, has stepped down after five years at the head of the organisation. Ian Moncrieff, currently chief operating officer and former UK National Hydrographer, will assume the role of chief executive with immediate effect.

The **UK Hydrographic Office (UKHO)** has also appointed Gareth Lewis as non-executive director on the Hydrographic Office Board (HOB).

Imtech Marine is opening a new office in the Algeciras-Strait of Gibraltar region, Spain. The office is the 74th location in the company's global service network.

Comark Corporation has appointed Rick Smudin as director of military and marine sales. Mr Smudin was previously with **Sun Microsystems** and **AMD**, and is a Lt. Colonel in the US Army.

www.ukho.gov.uk
www.imtech.eu
www.comarkcorp.com
www.km.kongsberg.com

V.Ships to install BNWAS

www.martek-marine.com

V.Ships, via its Seacom Electronics subsidiary, has agreed a contract with Martek Marine for the supply of a Navgard Bridge Navigation Watch Alarm System (BNWAS).

The initial order is for a Navgard BNWAS compliance package comprising a Navgard panel with two weatherproof external resets, an internal reset, three cabin alarms and four high intensity audio visual alarms.

Martek will also deliver an illuminated push-button reset for the bridge, a bridge wing reset button, officer cabin alarm and a high intensity corridor audio-visual alarm.

Martek says that it expects the initial contract to be followed by orders for further packages to be installed on V.Ships' vessels during the next three years.

The Navgard system comprises either a bulkhead-mounted or console-mounted control panel with an onboard Passive Infra-Red (PIR) movement detector with a 10m range.

Martek says that Navgard is the world's first BNWAS system fully type approved by all major classification societies, and that this was a particularly important factor in Seacom's decision to opt for the technology.

"This saved us from the hidden costs and risks associated with getting additional approvals," added Neil Sayce, managing director of Seacom Electronics.

Imtech to supply Seaspan

www.imtech.eu

Imtech Marine has announced the signing of an agreement for the supply of technology systems to Seaspan Vancouver Shipyards.

Under the contract, Imtech will be a technology partner of Seaspan and as such involved in the realisation of the Canadian government's National Shipbuilding Procurement Strategy (NSPS) programme.

This programme involves the construction of a large number of navy, coast guard and research vessels. Imtech will be involved in the programme's 'non-combat' section and expects to work on a total of eight vessels.

Investment in this part of the programme amounts to 8 billion euro. Imtech will supply Seaspan with ships' platform automation, electrical solutions, electric propulsion and air conditioning and climate control systems (HVAC).

"We would like to congratulate Seaspan Vancouver Shipyards, who have involved us as a partner in this major programme and who have presently been selected as the shipyard for the 'non-combat' vessels of the Royal Canadian Navy and the Canadian Coast Card," says René van der Bruggen, CEO Imtech.

"Seaspan is renowned for the solid expertise that it can exploit in the realisation of world-class ships. And naturally, in a shipbuilding market that is still characterised by reserve due to the economic and financial crises, this is also good news for our Marine division."

The 'non-combat' section of the programme is expected to comprise a 140-metre long polar icebreaker that can be considered the 'crown jewel' of the new Canadian fleet as well as two Joint Support Ships (JSS), which will each have a length of 175 m, with the option to realise a third vessel.

Furthermore, an 85-metre Offshore Oceanographic Science Vessel (OOSV), as well as three Offshore Fisheries Science Vessels (OFSC) will be constructed.

Under the agreement, Imtech will supply these vessel types with onboard technological solutions that are designed to withstand extreme weather conditions. Via its subsidiary, Groupe Techsol Marine, Imtech has access to a recently completed production centre in Quebec, where the company will be producing the onboard electrical solutions for these orders.

"Seaspan will be working together with a number of partners, in which Imtech is its intended partner for the ships' automation, electrical infrastructure, electrical propulsion and air conditioning and climate control systems, as well as their integration on the basis of high-tech platform system integration," says Mr van der Bruggen.

"Our acquisition of Groupe Techsol Marine in mid-September 2011 and the local presence of our marine subsidiary Radio Holland Canada have contributed positively to our current position. All the more so since the Canadian government aims to boost local employment with this new shipbuilding programme. Imtech wishes to actively contribute to this objective."

Teledyne launches latest motion sensor

www.tss-international.com

Teledyne TSS has introduced its new DMS-500H motion sensor, providing heave measurement to complement the roll and pitch capabilities of the previously launched DMS-500RP model.

The new sensor can now provide heave measurement accurate to around 5 cm, or 5 per cent, and includes Ethernet connectivity for the delivery of power and data, as well as two independently configurable serial outputs.

The DMS-500 range of sensors incorporate features for applications such as Dynamic Positioning (DP), wave height monitoring and structural stress monitoring.

The solid state circuitry of the DMS-500H is contained within a surface-use housing that is water resistant to International Standard IEC 60945 Class B for marine applications (IP65), and uses solid state angular rate sensors that offer reliability with an MTBF (Mean Time Between Failures) of more than 50,000 hours.

The motion sensor provides heave, pitch and roll measurements

Ireland specifies acceptable ECDIS training

www.dttas.ie

The director general of Maritime Safety Directorate, Department of Transport, Tourism and Sport, Ireland, has published a notice that clarifies which generic and ship specific equipment ECDIS training is acceptable for Irish Flagged vessels which have ECDIS as their primary means of navigation.

For the ECDIS generic training, Ireland has recognised: NARAS Operational courses completed after 1st January 2005; ECDIS programmes based on the IMO Model ECDIS course (1.27) approved by the Irish Maritime Administration; ECDIS programmes based on the IMO Model ECDIS course (1.27) approved by the Maritime Administration of an EU Member State or by a country which is recognised by Ireland under STCW 78, as amended, Regulation I/10.

The note further states that recognised ECDIS ship specific equipment training has to relate to the make and model of the equipment fitted on the ship on which a Master or Navigational Officer is currently serving.

This makes it necessary for a Master or Navigation Officer to complete training for each different system he is expected to operate.

The equipment specific training should concentrate on the functionality and effective use of the system onboard, and should at least cover the following areas: familiarisation with available functions; familiarisation with the menu structure; display setup; setting of safety values; recognition of alarms and malfunction indicators and the actions to be taken; route planning; route monitoring; changing over to backup systems; loading charts and licenses and updating of software.

The training, the notice states, should build on the approved ECDIS generic training, and is to be delivered by the ECDIS manufacturer, the manufacturer's approved agent, or a trainer who has attended such a programme.

A manufacturer's computer based training package can also be accepted for this purpose.

The notice states further that 'trickle down training' (i.e. one officer training another) is not acceptable as it is believed to lead to incomplete knowledge of the equipment's capabilities, and especially the lesser used functions, being passed on.

According to the notice, each navigation officer on board an ECDIS-carrying vessel must hold documentary evidence onboard the vessel indicating that the type specific training has been completed for the ECDIS equipment being carried.

The procedures involved should also be incorporated in the ship's Safety Management System.

3D imaging for port traffic at Milford Haven

www.geovs.com

Milford Haven Port Authority has begun a trial of a C-Vu 3-dimensional VTS display software system from GeoVS, with the aim of testing its affect on situation awareness for the port's vessel traffic controllers.

Milford Haven is one of the world's largest LNG terminals and is the first port in the world to try the technology.

The system transforms a traditional two dimensional radar display into a three dimensional view in which, instead of appearing as featureless radar targets, vessels on the display appear as they really are.

Consequently tankers look like tankers and tugs look like tugs, and their relative sizes and locations are drawn and shown in real time.

The display could be likened to a simulator, but the company says it is more accurately described as a real time integrated presentation of radar, ECDIS and AIS data displayed in a unique manner.

GeoVS claims that this can drastically reduce any risk of radar targets being misidentified and gives port controllers an improved clarity of vision.

Automated surveillance is available with the C-Vu's virtual cameras that can, for example, give a port controller the same view that would be available from a distant aircraft or from the bridge of a ship that is being monitored.

"This will definitely be of value in incident investigation," said harbourmaster Mark Andrews.

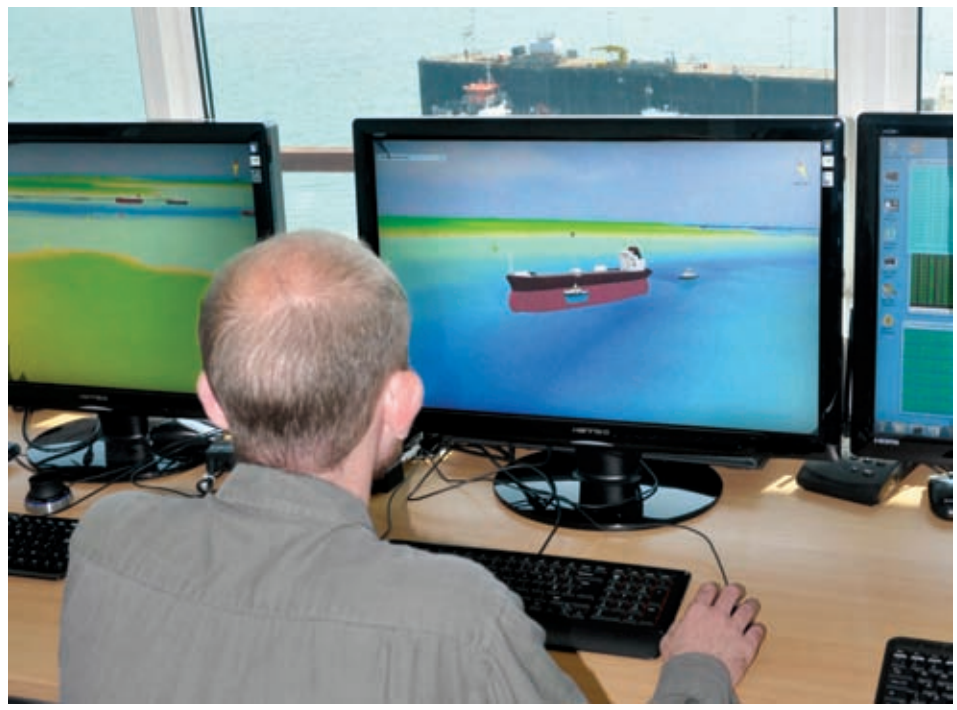
"It will enable us to see what happened from many different view-points and may help witnesses recollect their experiences more accurately. We now have the capacity to re-live an incident in a way that cannot be achieved by a Voyage Data Recorder and from the view point of vessels that may not be equipped with VDR anyway."

"I also believe that the C-Vu system will be a useful management tool as it will enable us to collect statistics about vessel movements."

According to GeoVS, the bathymetric data and 3D models are created automatically from ENC S57 charts and can be manually enhanced with additional features such as port buildings and landmarks.

Hydographic data can also be updated from a port's own survey boats to create a display for the controller that is technically accurate while also being more visually accessible than when it is presented on an ECDIS.

The C-Vu system has been developed with reference to studies made at Cardiff University that looked at the ways in which displays can be made more easily understood by their users, and GeoVS believes that the availability of these 3D cartographic displays will help to eliminate any confusion or ambiguity from the image that an operator is required to interpret.



The 3D imaging system should help to improve situational awareness at the port

Simulator guidance paper launched

www.imca-int.com

The International Marine Contractors Association (IMCA) has issued a guidance document on the use of simulators.

The new publication is designed to address the use of simulators in the training environment and as part of competence assessments.

Sections cover the definition of a simulator; classes of simulator; use of simulators in the marine contracting industry; differences between e-learning and simulation; simulators in competence assessment; and definitions.

Additional appendices cover different types of simulators used for dive control, dynamic positioning (DP) and remotely operated vehicles (ROVs), each describing their purpose.

Other appendices will be added to the document as they are completed.

"Guidance on the Use of Simulators (IMCA C 014 Rev. 1) is a fundamental piece of work, for it emphasises the increased importance placed by the industry on the use of simulators," explains IMCA's chief executive, Hugh Williams.

"Simulation is proving its worth in the quest for the best way for individuals or teams to undertake a task efficiently and safely, and is thus often used for work planning/mission planning purposes including engineering development, procedure development, technical assessments, research, and asset risk assessment."

"The technology has improved enormously in recent years and the graphics are so good that users have a true idea of what they will be seeing and doing in 'real time' when the planning stage moves to the operational stage. Of course, simulators are also vital tools in emergency planning."

'Guidance on the Use of Simulators' can be downloaded free of charge from the IMCA website (www.imca-int.com), with paper copies available for a small charge.

Pole star merges with Absolute

www.polestarglobal.com
www.absolutemaritime.com

Pole Star Space Applications (Pole Star), Absolute Software and Absolute Maritime Tracking Services (Absolute) have announced that the merger of the three organisations has been completed.

The London-based business will provide a combination of monitoring and security related services to more than 35,000 vessels - half the world's international fleet.

"Our goal is to be the world's leading provider of fleet management, ship security and vessel monitoring systems to the maritime industry as a whole. This merger is a big step towards achieving that," says Colin Hook, newly appointed CEO of Pole Star.

"Both Pole Star and Absolute have complementary businesses and technologies and together we can provide extended, more advanced services and systems to our clients around the globe. We are excited by the opportunity of being able to offer fisheries solutions to many of our existing government clients."

The merged company will combine Pole Star's systems for commercial fleets, flags and maritime administrations with Absolute's fisheries management and services to flags and maritime administrations.

The new company will operate long-range identification & tracking (LRIT) data centres for 40 maritime administrations including Panama, Singapore, the Marshall Islands, Liberia, Australia, and Canada. It will further provide LRIT conformance testing and certification for more than 90 Flags.

The company is hoping that its increased technology resources will enable the group to deliver its products more quickly to its customers.

"As a long time customer of Pole Star, we are excited by this merger and look forward to the added benefits that this will bring to us," says Captain Jude Dias, company security and safety manager at Wallem, Germany.

"With the combined technology expertise and reach of these two organisations, Pole Star will provide us with the advanced technological solutions that we need to manage, track and protect our fleet in line with international regulations and compliance measures."

In other news, Pole Star has also recently reported the launch of an Industry Zones functionality to add to its Fleet Management and SSAS Alert Advanced products.

Industry Zones enables users to select from a series of pre-defined areas that carry additional environmental regulatory requirements or security risks and apply them to their voyage management and reporting procedures.

The system provides automatic notification when a vessel enters and exits the pre-defined zone and can be configured to increase frequency of reporting while in the zone.

In addition to entry and exit alerts, Fleet Management users can receive automatically-increased frequency of reporting via e-mail or SMS while the ship remains in a selected zone.

SSAS Alert Advanced users receive automatic entry and exit notification and ships can be polled on demand for latest position reports.

In addition, users of both products can establish their own Geo-Zones to provide a similar level of notification on their own chosen criteria, such as proximity to a specific coastline, potentially congested waters or an area of known bad weather.

Once the Geo-Zone is established, users can create notifications to alert selected users via e-mail/SMS when a vessel reports a position on entering, exiting and inside the zone.

"Shipowners today face both increased security threats and a greater regulatory burden, so there is a need to simplify compliance while at the same time sharpening security monitoring," said Paul Morter, Pole Star director of sales.

"To manage these issues effectively they need tools that bring together all the information needed for voyage planning and execution."

"Pole Star Industry Zones provides that functionality within a proven and widely-adopted system and in a single screen view, vessel by vessel, across a whole fleet."

JRC

jrceurope.com/ECDIS

For professional seafarers

Our ECDIS systems are one of the world's most advanced and future proof e-charting solutions available today. But there's much more to it...

MARIS wins contract with Highlander

www.maris.no

Norwegian electronic navigation provider, Maritime Information Systems (MARIS), has announced the signing of an OEM agreement with Beijing Highlander Digital Record Technology (Highlander), a company specialising in marine electronics technology.

Under the contract, which extends worldwide, MARIS will offer technical support as the partners roll out a joint project to offer ECDIS and radar systems.

The ECDIS part of the agreement stipulates that MARIS will initially supply both software and hardware, with a view to Highlander developing its own hardware manufacturing in the near future, and MARIS retaining its role as software supplier.

For radars, MARIS will initially supply complete systems, while at the same time assisting in securing the relevant type approvals.

"We have already delivered more than 100 ECDIS systems as part of our collaboration to date, but the formalised agreement represents a commitment to long term cooperation from both sides," says Steinar Gundersen, MARIS deputy chief executive (corporate).

"Combining MARIS expertise with a powerful manufacturing partner that matches our aspirations to deliver our proven technology to the industry is very timely, given the volume production that will be required to meet the approaching mandatory ECDIS regime."

New simulator for Korean Naval College

www.nautissim.com

VSTEP, in cooperation with its Korean partner Dongkang M-Tech, has installed a full NAUTIS Naval Task Force maritime simulator classroom at The Korean Naval College in Seoul.

The classroom consists of 20 NAUTIS Naval Task Force Trainee Stations and an Instructor Station, to be used for maritime training and preparation of cadets and naval personnel in ship handling and navigation.

"We are happy to add the Korean Naval College to our client portfolio and rejoice in the fact that such a renowned national naval college has selected NAUTIS maritime simulators for training of its cadets," said VSTEP CEO, Cristijn Sarvaas.

"NAUTIS is a new generation of simulation technology that meets the high standards of today's maritime professionals. The Korean Naval college has evaluated and recognised the powerful benefits of NAUTIS, such as low cost, flexibility for the user and superior visuals in training."

ENC deal for new Norwegian company

www.navtor.no

Newly-established Norwegian e-navigation company, NAVTOR (part of Stavanger-based business, Smedvig), has signed a distribution agreement with PRIMAR for the supply of official electronic charts (ENC).

Smedvig has created the new company in response to IMO's introduction of a carriage requirement for ECDIS and ENCs, being phased in from next year, which it believes will create new opportunities to provide electronic navigation services and for the distribution and updating of electronic charts and related maritime information.

Based in Egersund, a coastal town south of Stavanger, NAVTOR has been staffed with personnel with previous experience of the maritime industry, particularly in electronic chart production and distribution, such as marketing and communications manager Willy Zeiler, previously at Jeppesen Marine.

"A distribution agreement of official ENCs was our prime goal when NAVTOR was set up, so we are delighted to have signed an ENC distributor agreement with PRIMAR," said Mr Zeiler.

"When we launch our innovative ENC service in the first quarter of 2012, I am sure it will be a major contribution to simplify ordering, licensing, updating and, importantly, administration of the ENC chart portfolio."

"Up to now, the market has been slow to begin using ENC, primarily due to today's cumbersome solutions. However, when it's all made easy for the navigator, I believe we will experience a swift uptake in this service. Once the mandatory use of ENC comes into force, I am sure that NAVTOR's ENC service will be a valuable solution for navigators on the bridge."

Imtech and MSG in ECDIS training deal

www.marineserve.de
www.imtech.eu

Imtech Marine has agreed a deal with MSG MarineServe GmbH, for the provision of ECDIS training services on a worldwide basis.

Imtech had previously contracted with MSG's sister company, Safebridge, in March 2011 to create an e-learning training platform linked to its own ECDIS software, for internet delivery.

This new agreement will mean that Imtech will put all of its equipment training obligations in the hands of MSG and its worldwide support organisation, ETC (ECDIS Training Consortium).

MSG will also provide course certification and trainee database services for reference by Port State Control and other relevant authorities.

Partnership agreement on mooring analysis

www.bmtargoss.com
www.tensiontech.com

BMT ARGOSS, a subsidiary of BMT Group, has announced a partnership with Tension Technology International (TTI) to develop improved functionality of the OPTIMOOR mooring analysis computer program.

The OPTIMOOR tool, used by vessel and terminal personnel as well as port designers and naval architects, incorporates OCIMF recommendations and procedures and includes OCIMF wind and current coefficients for tanker moorings.

The new module will draw on BMT ARGOSS's operational and web-based services for ships and ports, as well as its work on MetOcean data and the dynamic response of vessels.

It will allow OPTIMOOR to make accurate predictions in locations exposed to high wave energy, making the system better suited to simulation of ship-to-ship transfers and exposed mooring locations.

"Current trends are towards mooring and trans-shipment in more exposed locations where wave action is a major consideration," said Nick O'Hear, chairman of Tension Technology International.

"By calculating the response to wave activity in the time domain, BMT ARGOSS will help to bring an enhanced level of accuracy to OPTIMOOR that will add considerable value to our customers."

BMT ARGOSS' mooring tool will be improved through the addition of TTI technology

EMSA becomes LRIT – IDE Operator

www.emsa.europa.eu

The European Maritime Safety Agency (EMSA) has announced that it has begun operating the LRIT International Data Exchange (LRIT-IDE), a central facility managing the flow of LRIT information between various LRIT Data Centres around the world.

The LRIT-IDE acts like the switchboard of a telephone network, relaying LRIT position reports between all Data Centres, and is at the centre of a secure network which spans five continents. It handles issues such as availability and access rights.

This system has been developed, hosted and operated on a temporary basis since 2009 by the United States Coast Guard agency. EMSA was appointed as the IDE Operator by the IMO Maritime Safety Committee during its 87th session, and the transfer process has now been successfully completed.

"We are extremely pleased that the transfer of the responsibility for the IDE from the US Coast Guard to EMSA has been achieved successfully," says Willem de Ruiter, executive director of EMSA.

"The cooperation with the International Maritime Organization and the US Coast Guard, the former operator and developer of this system, has been very good: a positive example of international collaboration aimed at enhancing maritime safety worldwide."

Kongsberg to supply simulators to Indonesian training centre

www.kongsberg.com

Kongsberg Maritime has announced the signing of an agreement with Barombong Merchant Marine College (BP2IP) in Indonesia. Under the contract Kongsberg will supply a range of equipment including its Polaris and Neptune Simulators for navigation and engine room training.

The contract is the result of an open tender and stipulates that Kongsberg Maritime will perform the installations at BP2IP's new ship-shaped training facility.

The terms of the agreement include a ship's bridge simulator, engine room simulator, Polaris Crisis Management/Oil Spill simulator, GMDSS trainers, instructor stations, Exercise Area Database Creator, full mission ERS, and target ship and own ship hydrodynamic models.

"It is a priority for the Ministry of Transport that training centres are able to deliver world-class mariners for the global manning of ships and Kongsberg Maritime Simulators enable us to provide students with the skills and experience they need to become the best seafarers," says M. Chairul Djohansyah, principal of Barombong Merchant Marine College.

"The installation of this training technology shows our commitment to the provision of outstanding education at all levels."

The Kongsberg Maritime Polaris and Neptune simulators meet the requirements of IMO, SOLAS and the latest STCW Convention, and are certified by several maritime classification societies.

Together, they are expected to provide a broad mix of training scenarios across numerous disciplines, including bridge team management, ship-handling and manoeuvring, radar observation and plotting, automatic radar plotting aids and engine resource and team management.

"We already have several deliveries to other civil and naval training centres in Indonesia but we see this as a significant expansion to our activity in the region," says Peter Grindem, area sales manager, Kongsberg Maritime Simulation.

"Our delivery to BP2IP covers a broad spectrum of training disciplines and we are looking forward to providing the new facility with our state-of-the-art simulators."

In other news, Kongsberg Maritime also reports that it has successfully completed Factory Acceptance Tests for the K-Master aft bridge systems being delivered to two Platform Supply Vessels (PSV) built at Havyard in Leirvik for owner Sartor Offshore and Supply Service.

The vessels are part of a four newbuild series, all featuring Kongsberg K-Master, K-Pos Dynamic Positioning, C-Joy joystick control and K-Thrust thruster control.

The FATs were for Havyard 103 and 106, vessels number two and three in the series, and are due for delivery to the owner in Q1 2012. Installation of the systems aboard Havyard 103 and 106 will take place before the end of the year.

The first vessel in the Havyard newbuild PSV series – Havyard 102 'Saeborg' – is already sailing with the full Kongsberg system installed.

"These deliveries reflect our good standing with Havyard and many other high-technology vessel builders around the world," says Sven Brede Grimkelsrud, operation manager OSV/K-Master, Kongsberg Maritime.

ICS report addresses concerns about the use of navigation systems

www.marisec.org

The International Chamber of Shipping (ICS) has conducted a survey of incident reports, which is anticipated to result in the development of agreed proposals to enhance the management of traffic in the Straits of Malacca and Singapore.

With more than 70,000 vessels each year (over 150 a day) transiting this strategically important international waterway, ICS believes it is imperative that safety continues to be prioritised.

While only a very small proportion of these transits result in accidents or near misses, the ICS survey has identified heavy shipping traffic, inappropriate speed and the loss of situational awareness as significant factors that need to be addressed.

ICS suggested that improvements could be made to the location of pilot boarding areas and the timing of pilot departures and voiced concerns about the understanding and use of navigation systems such as ECDIS, AIS and radar, both at sea and ashore.

"The littoral States welcomed the report and we were pleased to hear that measures are already being taken to further improve navigational services in the Straits," says John Murray, ICS director marine.

"Malaysia and Indonesia have agreed to forward additional accident reports to further enhance the ICS study's findings, particularly in relation to the Malacca Straits."

"Singapore will be sending information on measures it has already taken to improve navigational services in relation to the Singapore Straits, which ICS will review by conducting a gap analysis in order to identify remaining safety proposals."

A Methodological Framework for Evaluating Maritime Simulation

Simulator based training is becoming an increasingly important part of maritime education, though evaluating the success of these courses can be difficult. This research project aims to create a methodological framework for evaluating maritime simulation, write *Nikitas Nikitakos and Panagiotis Vassilakis, University of Aegean Department of Shipping Trade & Transportation*

In trying to identify the capability of a maritime simulator course, we can say that it is a multifunctional tool through which special techniques in ship handling, either for the deck or engine department, can be promoted.

More specifically, we can say that a maritime simulator can work as a knowledge accelerator for the seafarer in order to protect human life at sea and the environment.

According to STCW section A-I/12 "..... the simulator shall be capable of simulating the operating capabilities of shipboard equipment, to a level of physical realism appropriate to the training and assessment objectives....."

Actually, a simulator course is an interactive course connecting the machinery, the instructor and the students. But how do those three ingredients interact with each other, and under which pedagogic model? And who finally makes the evaluation and the assessment of this course?

These are some of the main questions which we will try to answer through this article.

The main goal in most of the pedagogic theories is to determine what the students ultimately take from the course in the long term, rather than by the end of the course.

From the available literature the most relevant pedagogic theories to virtual learning scenarios like maritime simulation are: Problem based learning, Discovering Learning, Learning by exploration, just in time teaching, and Case based learning.

The main guide line in all this theory is that the evaluation of the course stems from the interaction between the student and the instructor.

Based on this acceptance, in our research we will try to apply the Concern Based Model to a Full Mission Engine Room Simulator, which has steadily been introduced and corresponded to a portion of the academic syllabus in the merchant marine academy of Chios.

This Study is a part of an expanded research project on the Concerned Based Adoption Model (CBAM) which includes: (a) the Stage of Concern; and (b) the Level of Use.

Within this article, the value of simulation along the Stage of Concern and the Level of Use of simulator taught courses will be examined.

Data are extracted from student reactions, from those that have participated and experienced simulator applications. The analysis was based on the theoretical model CBAM. Results are extracted and anticipated to present the perception skills of participating students as well as their reactions and feedback.

The scope of the analysis is to obtain results that will assist academic staff in developing more efficient methods for simulation course education, making the application of simulators far more productive for the participating students and enabling them also to be trained to operate in the real working environment.

By evaluating the performance of simulator courses it is anticipated and expected that it will be possible to improve the education offered; thus the candidate officers will be a success when they face the 'real world'.

It will be considered a success if the academic schools that are associated with maritime education are able to produce qualified officers who are not only qualified graduates but also possess the knowledge and ability to undertake and effectively execute their duties without any doubt, and with the expected level of professionalism and responsibility.

Participants

The participants who took part in the CBAM questionnaire are students at the Merchant Marine Academy on Chios Island, Greece. The Academy was founded in 1955 and is currently supported by the Greek Ministry of Economy, Competitiveness & Shipping.

The duration of study is 4 years, from which 12 months are spent on merchant marine vessels. The other three years consist of a syllabus of theoretical and laboratory courses. Students receive both a theoretical and technical education, according to Sandwich Courses and STCW. Graduates are presented the diploma of a 3rd Engineer of Merchant Marine.

A total of sixty five students participated in the simulation course during the spring (half-year) period 2008-2009, and from them fifty questionnaires were collected in total. Nine questionnaires were not fully completed and thus they were excluded from the analysis.

In order to present a complete picture of the standards and knowledge of the participating students, the following should be noted:

- 60 per cent of the students are in the range of 20-22 years of age.
- Most students came from high school with a general education (46.3 per cent). This fact determines that they are individuals with a high level of theoretical knowledge.
- Those that came from high school with a technical education represent 43.9 per cent.
- All of them declared that they had been trained in the use of the English language, and 60 per cent of them evaluated their knowledge as 'average level'.
- Only 17 per cent had a second foreign language, mainly German, which was also reported to be used at an 'average level'.
- In the submitted questions to the students referring to their level of education, a 78 per cent declared themselves 'satisfied', while 48 per cent evaluated their level of education as 'very good'.

Concerns-Based Adoption Model (CBAM)

The Concerns-Based Adoption Model (CBAM) mainly deals with the description, measurement, and explanation of a process of change in education.

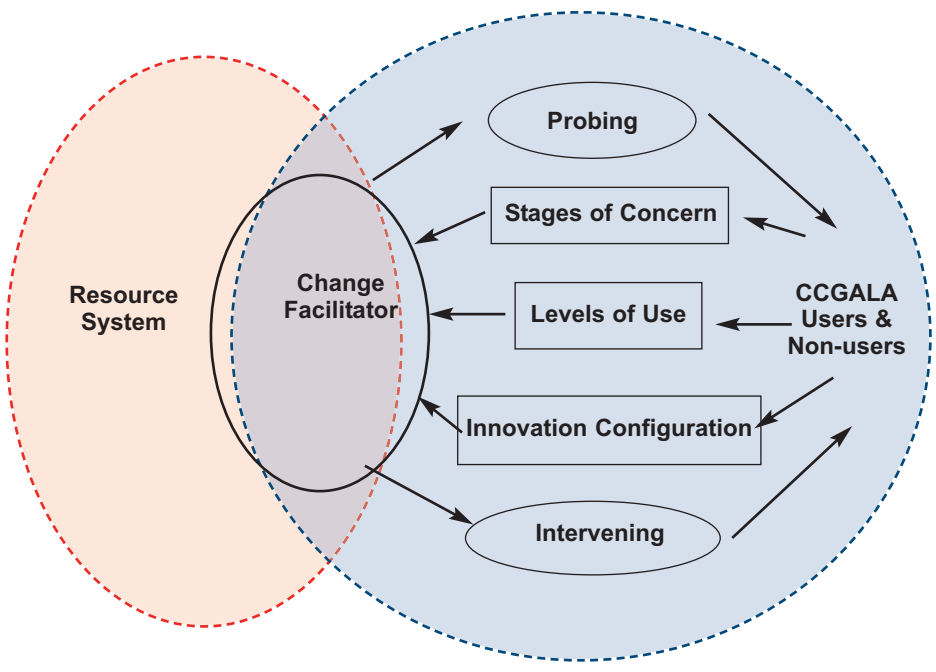


Figure 1: Concern Based Adoption Model

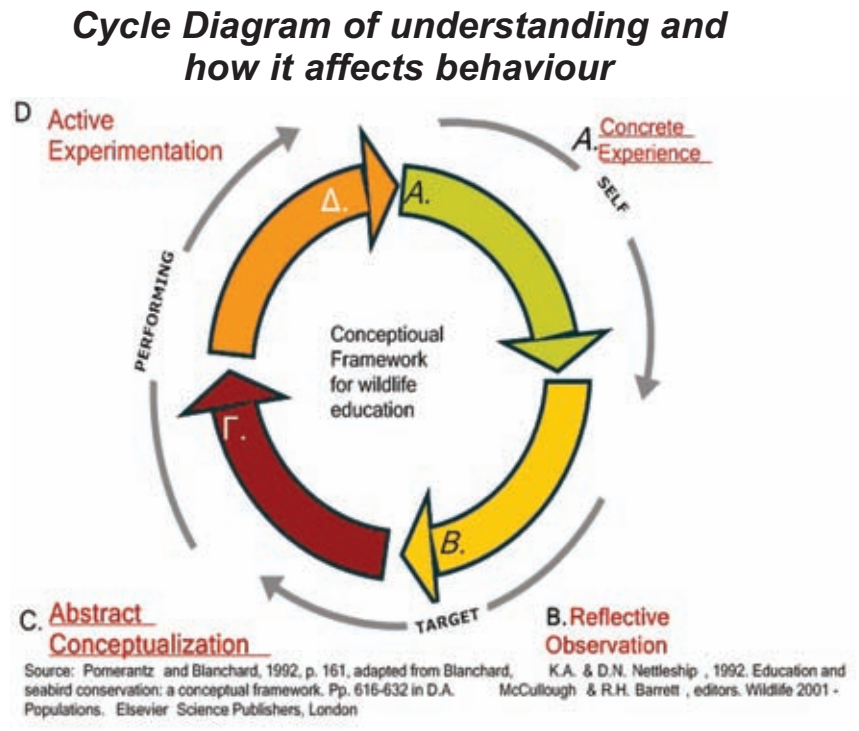


Figure 2: Cycle Diagram of Understanding

Stage of concern	Expression of Concern
6. Refocusing	I have some ideas about something that would work even better.
5. Collaboration	How can I relate what I am doing to what others are doing?
4. Consequence	How is my use affecting learners? How can I refine it to have more impact?
3. Management	I seem to be spending all my time getting materials ready.
2. Personal	How will using it affect me?
1. Informational	I would like to know more about it.
0. Awareness	I am not concerned about it.

Table 1: Stage of Concern

Stage	Percent %	Group
0 Awareness	12.75%	SELF 39,25%
1 Informational	13.79%	
2 Personal	12.71%	
3 Management	11.42%	TASK 23,92%
4 Consequence	12.50%	
5 Collaboration	13.93%	PERFORMING 27,43%
5 Refocusing	13.50%	

Table 3: Result Table of stage of concern

The CBAM relates to the experience of both the instructors and their students when trying to apply and follow new procedures in teaching and studying, as well as the educational material and practices that are implemented.

As shown in figure 1, the CBAM is a framework designed to help change facilitators identify the special needs of individuals involved in the change process and address those needs appropriately based on the information gathered through the model's diagnostic dimensions.

With those diagnostic data, the instructor can then develop a policy for any required intervention necessary to facilitate the change effort.

Together, the SoC (Stage of Concern) and LoU (Level of Use) provide a powerful description of the dynamics of an individual involved in change; one dimension focusing on feelings, the other on behavioural patterns.

The Stage of Concern model provides a framework from which to understand the personal side of the change process.

According to this model we assign different priorities and levels of interest to the things we perceive, individually and in various combinations, though most of the time we have little or no interest in most stimuli. Concerns are an important dimension in working with individuals involved in a change process – such as a simulation course in maritime education.

Seven Stages of Concern regarding innovation have been identified (see table 1). They are called stages because usually there is a development movement through them.

The participants in a simulator course may experience a certain type of concern, although within the process they may also experience another, different kind of concern.

The Stage of Concern for a simulator course appears to move progressively from little or no concern, to concern about the task of operating the simulator, and finally to concern about the whole impact of the simulator course.

The Stage of Concern Questionnaire (SoCQ) is the primary tool for determining the stage that the individual is at.

In the Level of Use model, the levels represent models of behaviour which are classified in eight separate categories. The focus is on what the individual is doing or not doing.

The behaviour models mainly focus on the actions of individuals that have completed the course, regardless of whether the outcome is successful or not (see table 2). Each model is recorded and analysed as well as a series of individual reactions that are also connected with the particular behaviour.

The result is drawn on a table (see table 4) that consists of the levels of use along with the seven categories which we are examining and the predetermined behaviours

Measuring

A Stage of Concern Questionnaire (SoCQ) was developed in order to measure the concern of the individual. The data analyses were based on the following:

- Determine the highest perceived concern for each participant, along with one or two other high concerns. The remaining stages are characterised, by default, as being of lower concern.
- SoCQ percentile stage scores (seven plus total)

The validity of the SoCQ is investigated by examining the highest and the lowest scores at each stage separately and related to one or another stage.

The participants in this study used a 0-7 scale to respond to each item. The response indicated how that the person considered items within the scale; the sum of the scale scores constituted the total score.

Examining both the highest and the second highest ranking made a more detailed interpretation possible.

For LoU, by definition the Levels of Use are the sequence a user follows during his progression while using a new innovation. It relates to the methodology adopted by the user while he gains his confidence with his developed skills in order to ascertain the use of the educational innovation.

Following the same logic, however, a different individual may remain unchangeable during the duration of the process of change.

The adopted methodology is outlined in the following 3 points:

- The questionnaire developers investigate the validity of the LoU by examining the relation of scores on the seven stages scales in relation to each other as well as in relation to variables suggested by the theory of Level of Use.
- The behaviours that are described at each intersection in the LoU Chart are derived by combining it with the described category for this level. Each level of use represents a different approach in using a simulator.
- Each LoU is described in terms of the types of behaviours represented in the intersections in the chart of each category with a particular Level.

Table 2 shows the levels of use according to the CBAM model. The individuals that participate in the use of the educational innovation take for granted that they function at a higher level than the 'routine' level (IVA), so that the innovation is maintained and its use is adopted.

In the case of Levels of Use it is assumed that the inquired person has a good comprehension of the LoU theoretical framework, and then directs himself accordingly and proceeds by answering the questions.

In order to assess and mark the usefulness of Engine Room Simulation, the behaviours of individuals were developed and delimited in the seven categories according to the theory of Level of Use (see Table 4).

Results

Classifying the results by percentile, according to the theory of high and low Stage of Concern, gives us the figures seen in table 3.

The results show that the highest single percentage group of students, 13.93 per cent, indicated a great concern about collaboration between the participants and the relationships which have been developed during the simulation courses.

The interpretation for this result can be considered very logical, if we compare it with the real work environment in the engine room of a ship.

The second highest percentage group of students is 13.79 per cent, and indicates concern about the collecting of information and knowledge for the simulation course, and the definition of this process.

One point of interest is the group representing 13.50 per cent of the participants, who are interested in learning more from the whole procedure rather than just the particular task. They focus

Levels of Use	Behavioral indicators of Level
VI. Renewal	The user is seeking more effective alternatives to the established use of the innovation.
V. Integration	The user is making deliberate efforts to coordinate with others in using the innovation.
IVB. Refinement	The user is making changes to increase outcomes.
IVA. Routine	The user is making few or no changes and has an established pattern of use.
III. Mechanical	The user is making changes to better organise use of the innovation.
II. Preparation	The user has definite plans to begin using the innovation.
I. Orientation	The user is taking the initiative to learn more about the innovation.
0. Non-use	The user has no interest, is taking no action

From Taking Charge of Change by Shirley M. Hord, William L. Rutherford, Leslie Huling-Austin and Gene E. Hall, 1987. Published by the Association for Supervision and Curriculum Development (703) 549-9110 Reprinted with permission.

Table 2: The level of use of the innovation

on exploring ways to reap more universal benefits from the simulation courses, including the possibility of making major changes to it.

Based on the theory of Level of Use and the response of participants, the results were cross referenced between Level of Use and categories shown in table 4. The highest percentages here were in the categories of 'Sharing' and of 'Assessing', which were classified at Level of Use V (Integration).

'Integration' indicates that our participants are combining their own efforts to use the simulation course with the related activities of colleagues, to achieve a collective impact within their own common sphere of influence.

For the 'Assessing' category, participants indicated that they appraise collaborative use of the innovation in terms of increasing their own outcomes and strengths and weakness, as part of the integrated effort.

In the categories of 'Status Reporting' and 'Acquiring Information' the users indicated Level of Use IVA (Routine). This means that they try to determine how to use the simulator and that few changes then take place during ongoing use.

Weaknesses of the users were indentified in the 'Knowledge', 'Planning' and 'Performing' categories. In these categories the instructor must be given more attention, in order to enhance the output of the simulator course.

LEVEL OF USE		CATEGORIES						
Level	Characteristic	Knowledge	Acquiring information	Sharing	Assessing	Planning	Status Reporting	Performing
VI	RENEWAL							
V	INTEGRATION			LoU V	LoU V			
IVB	REFINEMENT							
IVA	ROUTINE		LoU IVA				LoU IVA	
III	MECHANICAL USE	LoU III						
II	PREPARATION					LoU II		
I	ORIENTATION							LoU I
0	NONUSE							

Table 4: Result table for Level of Use & categories

Pedagogical view

From a pedagogical view the simulator courses can be viewed in light of the different cognitive theories on virtual reality learning.

As mentioned at the beginning, many theories can be adapted in order to enrich the whole procedure. The final choice of the correct theory must be a combination of the simulation task and the correct related theory.

The correct approach of pedagogical theory during the course can be defined from the category of knowledge and performance at level of use.

In an effort to identify which stage of learning our participants were at, we adapted the learning theory of Kolb.

This theory typically describes a four-stage cycle of learning, with the following stages of understanding (see figure 2):

- Concrete Experience - (CE)
- Reflective Observation - (RO)
- Abstract Conceptualisation - (AC)
- Active Experimentation - (AE)

Furthermore we are trying to align the results from the stage of concern with the ones from the stage of learning from the Kolb theory.

In line with the theory of concern we categorised the seven stages of concern into three groups (see table 3).

Stage 0 to Stage 2 is called the Self Group; Stage 3 and 4 are called the Target group; and Stage 5 and 6 are called the Performance group.

We added up the percentage score for the stages within each group, and the result for the Self Concern Group was 39.25 per cent, for the Target Concern Group 23.92 per cent, and for the Performance Group 27.43 per cent.

Finally, we paired the data from Stage of Concern with the Stage of Learning (see figure 2), and the findings are that 39.25 per cent of our participants are between the 'Concrete Experience' and the 'Reflective Observation' stages of understanding.

Another 23.92 per cent are between 'Reflective Observation' and 'Abstract Conceptualisation', while the other 27.43 per cent are between the 'Abstract Conceptualisation' and 'Active experimentation' stages.

Conclusions

The conclusion of the research is that the surveyed students experienced and accepted the introduction of simulation into their training positively, and expressed an interest in learning more about the application.

One of the most important outcomes was establishing the expression of strong concern for the development of collaboration amongst the students during the simulation.

The other main findings of this research showed that:

- The simulator course works like a 'knowledge accelerator' and facilitates the transfer of knowledge.
- The purpose of the engine simulator is to duplicate activities carried out in the engine rooms of ships.
- In the engine rooms of ships there should be established and imposed conditions of teamwork and cooperation, rather than just a superficial level, and this should actually include the exchange of views and knowledge amongst the crew.
- 27.43 per cent of participants felt comfortable with the simulation course and are ready to apply their knowledge in order to learn by trial and error.

It seems that the students are fully aware of the role and importance of simulation and began to seek out partnerships and relationships that would assist them in coping with the theoretical exercises that are experienced in the simulator in practice.

As such, the findings that the instructors received with regard to the reactions and concerns of students on the implementation of the simulator as part of their basic education could be described as being positive.

However, at the end of the course 39.25 per cent of participants are between the 'Concrete Experience' and 'Observation' stages of understanding, which means they don't realise what exactly has happened or they haven't had enough time to react.

Perhaps this means that they have not been given enough instruction on planning or performing during the course.

The participants also indicated a low concern for the organizing, managing and scheduling of the simulation course.

Effects

As a result of this research, the instructor has decided to cooperate more closely with the simulator manufacturing company to readjust the simulation course to the specific needs of the students.

The syllabus of the Academy has also been reorganised, according to the needs of the simulation course, and the instructor has decided to devote much more time to the debriefing stage, and to more generally inform the participant about the main purpose of the simulation course.

This is the first time that the CBAM framework has been used as a tool to measure the outcome of the application of marine simulation in a merchant marine Academy. It was anticipated to provide results relevant to the concerns and aptitude of not only the users, but also the instructors.

It could also be used as a tool to measure the effectiveness of an investment in simulation, and in judging the knowledge which the students acquire.

This paper is an initial part of our research. Our future plan is to apply the CBAM model as far as is possible to further maritime simulator applications, in Europe but also in Asia.

Our main hope is that simulation technology can be improved to create a flexible tool which can be adapted to each maritime simulation course, and that can determine the effects of the courses on the seafarers.

From the other point of view, that of the seafarers, it should also help to evaluate the quality of teaching and the best pedagogical method which can be applied. DS

References

1] *A.Kramer, C. W. (1985). Engineering Psychology. Illinois. Applying the concerns-based adoption model to reaserch on computers in classroom. (2005, March 9). Journal of Reasearch on Technology in Education , p. 35.*

2] *Archie A.George, G. E. (2006). Measuring Implementation in schools: THE STAGE OF CONCERN QUESTIONNAIRE. SEDL.*

3] *Gene E. Hall, P. (2006). Measuring Implementation in schools: LEVEL OF USE. TEXAS: SEDL.*

4] *J, W. (1992). Technology diffusion in the soft disciplines: Using Social Technology to support information technology. Texas.*

5] *PCJ, M. D. (1989, may 5). Using computers in education: A concerns based approach to professional development for teacher. Australian journal of Education Technology.*

6] *Petruzella, F. Industrial Electronics.Salonika-Greece: A.tziola.*

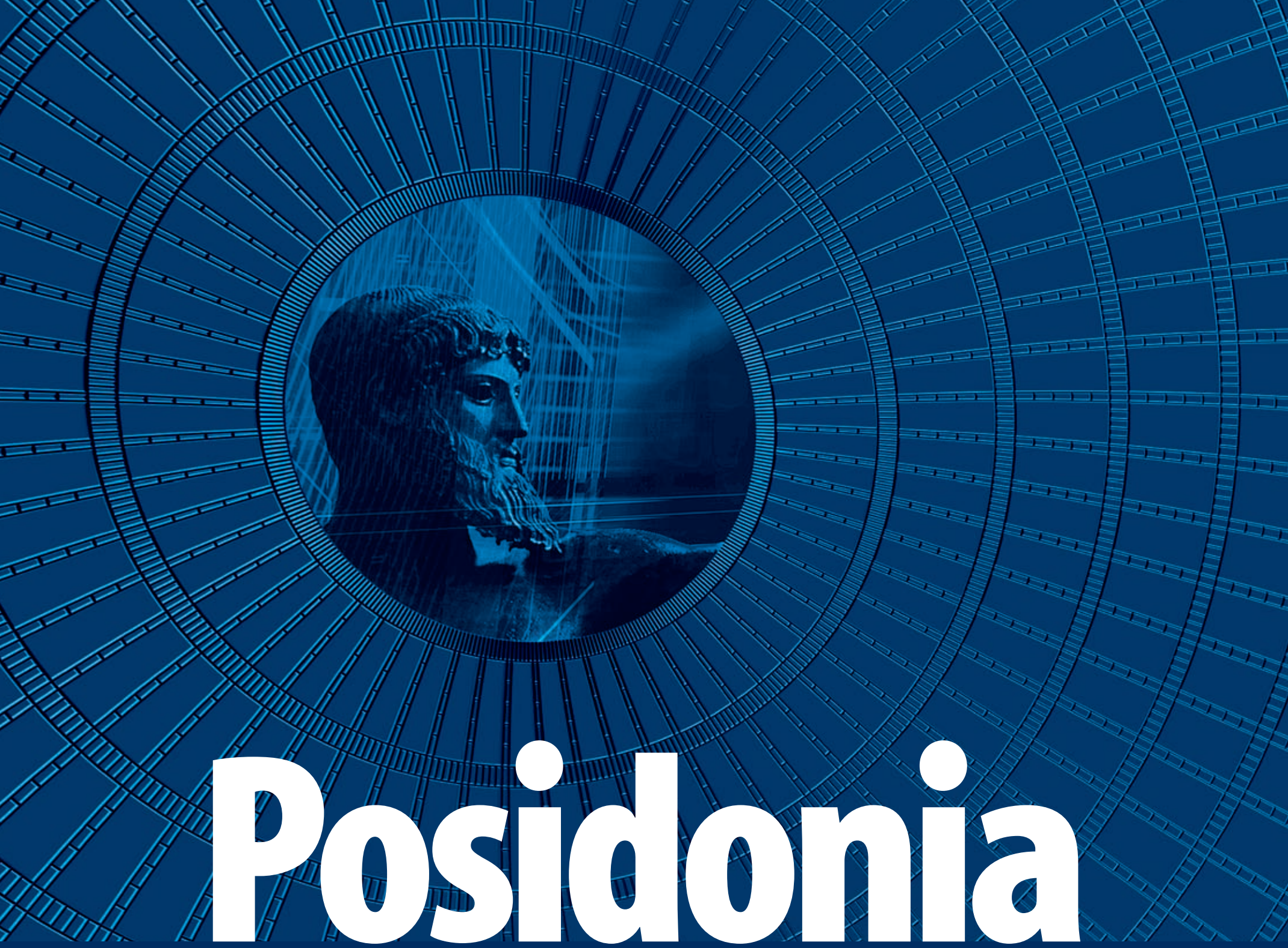
7] *S.E., A. (1997). Understanding Teacher Change: Revisiting The Concerns Based Adoption Model. Electronic Version.*

8] *Shirely M Hord, S. M. (2006). Measuring Implementation in schools: INNOVIATION CONFIGURATIONS. TEXAS USA: SEDL.*

9] *STCW Convention Resolutions of the 1995 conference. (1996). London: I.M.O*

10] *Avouris N., K. C. ISSUES EVALUATION OF IMAGES collaborative environment. Wesley Publications*

11] *Dimitrios H. Kokotos (Athens 2007). Virtual environments. Stamoulis Publications*



Posidonia

4-8 June 2012, Metropolitan Expo, Athens Greece

A unique blend of business and social interactions at the heart of Shipping

Be part of the great Posidonia experience at a state of the art new venue

Posidonia Ποσειδώνια

The International Shipping Exhibition

Organisers: **Posidonia Exhibitions SA,** e-mail: posidonia@posidonia-events.com

www.posidonia-events.com

ECDIS implementation – Legal implications

The mandatory implementation of ECDIS will bring with it a significant change in the way in which vessels across the world are operated, precipitating a massive shift from paper to digital systems. The existence of this data on ship navigation could also have major consequences for the legal environment, according to a report by the *UK P&I Club*

This article considers the legal implications of the new mandatory requirements of ECDIS and the legal effect of failure to meet the statutory ECDIS requirements, including the effect on insurance claims where levels of operation or knowledge of ECDIS are considered to be a factor or fundamental link in the chain of causation leading to an incident.

There is a variety of international legislation governing ECDIS and its operation, including SOLAS regulations, IMO resolutions, STCW 95 (shortly to be amended by the Manila amendments) and the ISM Code.

With Port State Control inspectors operating under the Paris and Tokyo MOUs now becoming more familiar with ECDIS related compliance and operational issues, an increased focus during random port state inspection is now evident.

The effect of failing to meet the established legislation governing ECDIS operation can have severe ramifications including detention of the vessel under the provisions of Port State Control conventions, suspension of Class, or the issue of a major non-conformance under the ISM Code resulting in suspension of the ISM DOC / SMC.

On the insurance side it could mean automatic termination or, alternatively, excluding the insurer for liability for any breach associated with the failure to comply with the requirements under hull and machinery insurances.

Incidents and claims

Claims arise in many forms resulting from loss during a marine adventure.

Incidents such as collision, grounding, machinery failure, heavy weather and contact damage to docks and jetties are all matters where the advent of sophisticated electronic aids to navigation and permanent recording facilities available to investigators will inevitably lead to closer scrutiny and the identification of fault.

Regulations relating to collision avoidance are contained in the provisions of S.I 1996 No. 0075 (The Merchant Shipping Distress Signals and Prevention of Collisions Regulations 1996).

Non-compliance with these regulations is potentially a criminal offence and will be evidence of potential negligence in a civil case for damages. Electronic record keeping will also make it easier to prosecute (or defend) cases where breach of the Collision Regulations is alleged.

Grounding is another area that will be impacted by the use of these systems. The introduction of ECDIS equipment operated in conjunction with approved ENC charts should make the accidental grounding of competently operated vessels a thing of the past.

Automatic route checking, monitoring and alarm systems effectively operated in conjunction with electronic chart safety contours should not only diminish the risk of human errors during planning stages but also effectively monitor the ship's position whilst on passage.

Safeguards against accidental changes to the approved passage plan, position inputs, speed inputs, position monitoring and cross reference should be established under the company SMS.

Where a failure of the requirements relating to training or familiarisation in ECDIS operation is established, claims arising from the alleged unseaworthiness of the ship are likely to arise and will be of major concern to owners, H&M and P&I insurers

However, in the event of a grounding incident the effective operation of the ECDIS system will be carefully examined.

With ECDIS systems having many complex features of operation, a failure by the operator to navigate in the correct format with only base chart information selected, for example, could result in critical information contained in the chart database being missed or undetected.

Where a failure of the requirements relating to training or familiarisation in ECDIS operation is established, claims arising from the alleged unseaworthiness of the ship are likely to arise and will be of major concern to owners, H&M and P&I insurers.

Limitation of liability

Section 185 of the Merchant Shipping Act 1995 incorporates the Convention on Limitation of Liability for Maritime Claims 1976 into English Law.

Article 4 of the convention states that "A person liable shall not be entitled to limit his liability if it is proven the loss resulted from his personal act or omission, committed with the intent to cause such loss or recklessly and with the knowledge that such loss would probably result."

Although this test imposes a significant burden on the party attempting to break the right to limitation it will enable creative claimants the opportunity to probe new areas of investigation where clear breaches in training and operation of electronic aids to navigation can be established.

The provisions of the Hague-Visby Rules are enacted within English Law by the Carriage of Goods by Sea Act 1971 (COGSA 1971), and Article III identifies a requirement for the carrier to exercise due diligence before and at the beginning of the voyage to make the vessel seaworthy and to properly man, equip and supply the ship.

Article IV of COGSA 1971 subsequently allows the carrier to be indemnified against cargo claims providing that; "the carrier nor the ship shall be liable for loss or damage arising or resulting from unseaworthiness unless caused by want of due diligence on the part of the carrier to make the vessel seaworthy, and to secure that the ship is properly manned, equipped and supplied."

With the competence and ability of the master and crew to effectively operate electronic navigational systems established as a critical element in the vessel's ability to encounter the 'ordinary perils of the sea', the cause of cargo damage will now be closely reviewed in relation to ECDIS certification and operation.

Where the carrier attempts to rely on the provisions of article IV of COGSA 1971 to avoid claims relating to cargo damage, the burden of proof rests firmly with the carrier to prove that he exercised due diligence.

In this respect if it is proven that there was a failure to comply with the statutory requirements of ECDIS operation or installation and this failure was considered causative in relation to the incident, the presumption of a lack of due diligence on the part of the carrier may be unavoidable.

Technology and claims

The effect of increasing levels of technology on board modern ships and the ability to electronically document the events leading to a marine casualty have created a tendency within the insurance sector to investigate claims against perils insured against with defences such as seaworthiness and lack of due diligence on the part of the assured featuring more often.

Insurance policies covering H&M and P&I may now be reviewed closely by the insurer, especially with the provisions of the ISM Code now linking operational aspects onboard to the 'highest level of management' through the designated person.

The lack or efficiency of equipment, navigational aids or charts has been clearly established as affecting the vessel's seaworthiness, both in relation to contracts of carriage and under insurance policies.

Additionally, sufficiency and competency of crew and their levels of training with regard to on board technology can also impinge upon the vessel's seaworthiness.

With the continuing advancements in technology making the question of the dynamics of an incident resulting in loss an item of fact rather than speculation, combined with the link established between the actions of those on board to the 'highest level of management' through the ISM Code, defences to claims relying on traditional navigational perils insured against and negligence of the master and crew may become more difficult to sustain.

Casualty investigation

Casualties and incidents of one kind or another are bound to occur from time to time during the navigation and operation of ships. When they do, legal disputes are likely to arise especially when large sums are involved.

The principle aim of the commercially minded shipowner, charterer and cargo owner is, of course, to settle any disputes quickly and cheaply. If however a dispute cannot be resolved between the parties then the matter may refer to arbitration or the courts for determination.

In hearing disputes between two par-

ties, arbitrators and judges rely upon the evidence presented to them to establish the facts of the case.

This evidence, traditionally presented by the parties in the form of both oral and written statements of witnesses, and contemporary log entries and documentation, have in the past provided the basis on which decisions have been made.

This evidence sometimes required the courts to determine conflicting statements on a particular issue in dispute. In such situations the judge or arbitrator, to establish the facts of the case, has heavily relied on contemporaneous evidence such as photographic, video or electronic information.

In this respect electronic equipment designed with a recording facility, such as ECDIS, voyage data recorders, AIS data and even GPS, have become a crucial part of legal proceedings often used to determine disputed facts.

With literally hundreds of different types of electronic systems with recording facilities operating different generations of software, the recovery of this information can however be a difficult task in itself.

As this critical and at times complex procedure of electronic data recovery has been clearly identified, it may be questioned why many ship managers, owners and operators have failed to provide clear instructions relating to the preservation of such data in the event of an incident.

Additionally, critical information may be lost due to lack of knowledge in relation to the storage space or memory of the equipment in question, or by the data being simply overwritten if action has not been taken for its preservation.

With this in mind it seems sensible for the ship manager or owner to establish not only what electronic equipment installed on board each vessel has recording facilities, but also provide clear instructions to the master, which identifies the actions to download the data and safeguard this critical evidence.

Failure to preserve evidence may be viewed with suspicion and adverse inferences drawn.

The design of a simple checklist could be used to establish the equipment onboard with recording facilities and identify the process to be followed in the case of an incident.

ECDIS data

It is important to understand that ECDIS systems are capable of recording not only the log of events but the parameters of operation set up by the operator at the time of the incident.

This electronic data may play a crucial part in the litigation process, especially during the transition period from paper to electronic navigation where questions relating to the effective operation of ECDIS systems may be raised.

This will mean that, in the case of a collision for example, where vector charts are selected and overlaid on radars having a primary collision avoidance designation, it may be possible for the officer charged with the navigation duties to reach information overload – especially if layers in excess of chart base levels are selected.

If this ineffective mode of ECDIS operation resulted in a target going undetected, ultimately resulting in a collision, the failure of the navigator to act in accordance with the Collision Regulations in this mode of operation could have significant consequences.

It may not only result in criminal charges and civil negligence actions, but may render the vessel unseaworthy with questions as to the exercise of due diligence on the part of those responsible for the management of the ship raised by cargo interests or insurers.

This new technological age also places a greater responsibility on the casualty investigator who is tasked to attend incidents and collect evidence.

The next generation of casualty investigators now undoubtedly require an extensive understanding in relation to the operation of equipment such as ECDIS and a practical knowledge relating to the principles of electronic navigation.

Conclusion

The ECDIS revolution and the rapid introduction of complex computerised systems and automation on board ocean going vessels is perceived by the industry as a positive change and an improvement in general standards of operation, levels of safety and protection of the environment.

The technological age has also brought with it new legislation and operational guidance requiring strict compliance.

The additional introduction of voyage data recorders (VDR) and ECDIS recording systems now effectively provide the suitably qualified marine investigator with a clear picture of events leading to a marine casualty.

Combine this with the requirements of documentation under the provisions of the ISM Code and the preamble and conclusion to a marine casualty investigation is complete.

With the requirement for effective training, familiarisation and operation now receiving increased focus, with traditional damage defences of navigational error, heavy weather and crew negligence now being subjected to additional scrutiny, the ECDIS revolution may be the catalyst which sparks a new cycle in the claims sector.

And this one which may be even more costly than the introduction of the technology itself…

DS

This article has been adapted from a report published by the UK P&I Club as part of a three-part series on the implications of ECDIS implementation, called ***'The key to safe ECDIS operation Part 3: Legal implications'.***

The full article, as well as the other two articles in the series, can be downloaded at http://www.ukpandi.com/loss-prevention/lp-reports.

A 16 page article called ***'ECDIS – Navigational and claims issues',*** *containing information from each of the three articles in the series has also been produced, and can be found at http://www.dunelmpr.co.uk/UKP&I-ECDISbrochure2011.pdf.*

How not to use ECDIS

The Safety Digest reports produced by the UK's Marine Accident Investigation Branch provide an excellent insight into the causes of various maritime incidents. Its latest issue carries two stories demonstrating how onboard navigation technology is not always competently applied

The latest Safety Digest from the UK's Marine Accident Investigation Branch (MAIB) has described a couple of interesting cases highlighting some important issues that those working with ECDIS would do well to heed.

In particular, MAIB has pointed to the importance of training in the use of ECDIS technology in ensuring its safe application onboard ship, and stressed how important it is not to be seduced by the screens in front of you and use your own senses to maintain good situational awareness.

The first of these two particular cases in Safety Digest 2/2011, titled 'How not to use ECDIS', involved a 4,000 tonne dry cargo ship on passage in the North Sea with good visibility and calm seas.

The following is MAIB's description of the lead up to the incident in question.

"The OOW was alone on the bridge and was monitoring the vessel's position in relation to the voyage plan using an ECDIS. The autopilot was selected and for much of his watch the OOW worked on paperwork in anticipation of a forthcoming vessel audit."

"The voyage plan had been input to the ECDIS by the vessel's chief officer and had been amended the previous evening to shorten the route and save time. At 1550, course was altered to 331 to follow the intended plan."

"About 25 minutes later, the master, who was in his cabin, felt a change in the vessel's vibrations. He called the OOW and instructed him to check the depth of water. The OOW looked at the ECDIS display and reported to the master that there was no cause for concern."

"However, the vibrations increased and the vessel quickly lost speed. The OOW now realised that something was wrong and put the propeller pitch to zero."

"He then changed the ECDIS display to a 1:50000 scale and saw from the charted depth of water that the vessel was aground. This was confirmed after switching on the echo sounder. A green, starboard mark was also seen off the port bow."

"By now, the master had arrived on the bridge with the chief officer and put the propeller pitch to full astern. The vessel refloated without difficulty and there was no damage. No action was taken to save the VDR (voyage data recorder) data."

Failures and lessons learned

MAIB's report points out that the key development during this incident that contributed to the grounding was the implementation of the amended voyage plan the previous evening.

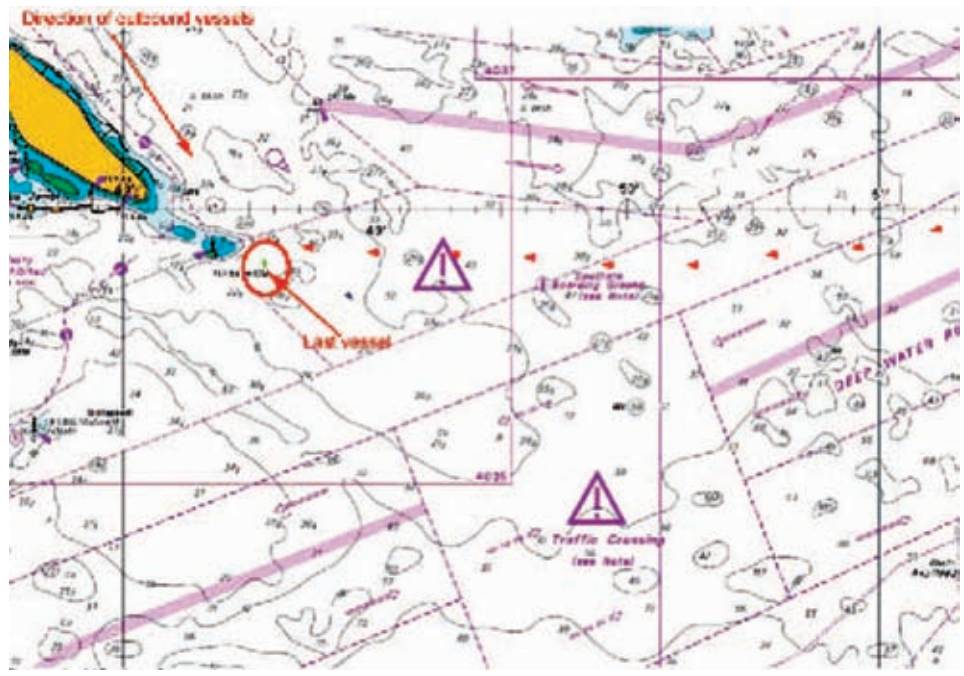
While this had been done to shorten the route it ended up taking the vessel across a charted area of shallow water.

Failure to recognise this stemmed from the fact that, according to the report, the vessel's officers had not been trained in the use of ECDIS and no procedures on the system's use were included in the vessel's safety management system (SMS).

As the report states: "They were therefore ignorant of many of the system requirements and features, and operated the system in a very basic and inherently dangerous manner."

"In-built safeguards in the vessel's ECDIS were not utilised and system warnings were not acted upon. In addition, the planner's check of the route plan was only cursory and was not cross-checked by the master."

After its investigation of this grounding MAIB has compiled a list of 'lessons learned' from the incident, which ECDIS users everywhere should apply to their own vessels.



What were they thinking? AIS plot of the vessel. Photo: MAIB

"1. In forthcoming years, ECDIS will replace paper charts as the primary means of navigation on many vessels. It goes without saying that deck officers need to be properly trained in the use of this equipment if it is to be used effectively and safely."

"2. The prime responsibility of an OOW is the immediate safety of his ship. This responsibility cannot be met when he is distracted by secondary duties. ECDIS is potentially a very accurate and effective navigation and bridge watchkeeping aid, but it is no more than just that: an aid."

"When using ECDIS, OOWs still need to keep their wits about them, identifying navigational marks and cross-checking a vessel's position by different means. The use of ECDIS does not diminish the importance of keeping a good lookout."

"3. The principles and requirements of passage planning on ECDIS are no different than when using a paper chart, and a master's responsibility to cross-check the work of his officers still remains."

"4. VDRs have been fitted on many ships for a number of years, yet many masters are still not certain when VDR data needs to be saved. Where doubt exists, it is better to save the VDR data and not use it, rather than to lose information that might help to prevent similar accidents from occurring in the future."

What were they thinking?

A second report from the 2/2011 Safety Digest, amusingly titled 'What were they

Digital Ship

Digital Ship is the maritime industry's meeting place to learn about new digital technologies which can contribute to improvements in maritime safety, operational efficiency and quality of life at sea.

Keep your finger on the pulse with our weekly e-mail newsletter and our online network for maritime IT professionals

www.thedigitalship.com

Digital Ship Limited, 2nd Floor, 8 Baltic Street East, London EC1Y 0UP, UK
Tel: +44 (0)20 7253 2700 Fax: +44 (0)20 7251 9179

thinking?', also cites improper application of the ECDIS as a contributing factor in another incident, this time involving a large container ship.

In this case failure to take advantage of the assistance available with the technology was one of a number of errors committed by the bridge team that led to the vessel running aground.

As described by MAIB, "Shortly after entering a busy traffic separation scheme (TSS), the master of a large container vessel arrived on the bridge to assist the bridge team during the vessel's transit."

"The waters were congested, and as the traffic density increased, the master took the con and the OOW switched roles to provide support to the master."

"As the vessel approached a precautionary area at 21 knots, Vessel Traffic Services (VTS) advised the vessel to exercise caution as three outbound vessels were ahead and intending to cross the TSS."

"The master, who had already started to slow down the vessel from full sea speed to full ahead manoeuvring on the 'load' programme, set the telegraph to half ahead and altered course to starboard to give way to the three crossing vessels. His plan was to pass astern of all the vessels before coming back on the planned track."

"On clearing what the master thought to be the first of the three vessels referred to, he was contacted by VTS, who advised him again to slow down. He acknowledged by confirming that he had reduced speed and planned to pass around the stern of the next two vessels."

"VTS, however, responded by informing him that the second of the two vessels, which was now almost right ahead, was not outbound. This was acknowledged by the OOW and, despite a subsequent warning from VTS that the vessel was heading towards shallow water, the master continued on his collision avoidance course."

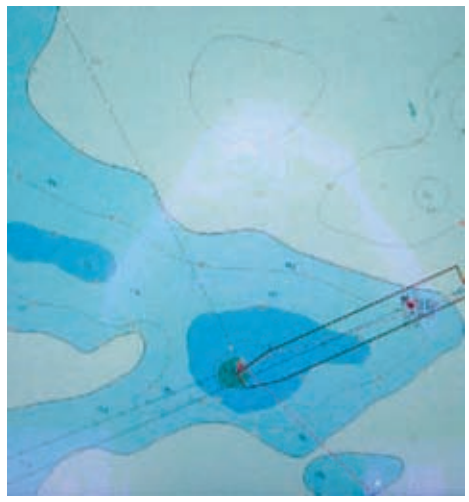
"On clearing the last vessel, the master then initiated a turn to port, but this action was insufficient to prevent the vessel from running aground on a charted reef at 14 knots."

Utilising technology's potential

This incident would seem to be a clear case of the bridge team failing to develop sufficient situational awareness to navigate the busy lanes they were travelling, the type of environment where the technological aids on the bridge can really be of most benefit.

MAIB's own five 'lessons learned' from the above described incident are as follows:

"1. Although the engine telegraph had been set from full ahead manoeuvring to half ahead, this had no effect on the engine speed as the reduction in engine speed was governed by the automatic 'load down' programme, which had to be overridden for any reduction to take immediate effect."



Vessel aground on the reef. Photo: MAIB

"2. The master's assessment of the situation and decision to alter course to starboard were based on his observation of true vectors and relative trails of the radar targets; the bridge team made no attempt to utilise the 'trial manoeuvre' function."

"3. The master and OOW misinterpreted the information received from VTS with respect to which three vessels it had referred to, and became irritated by its frequent interventions. This resulted in important information from VTS being missed."

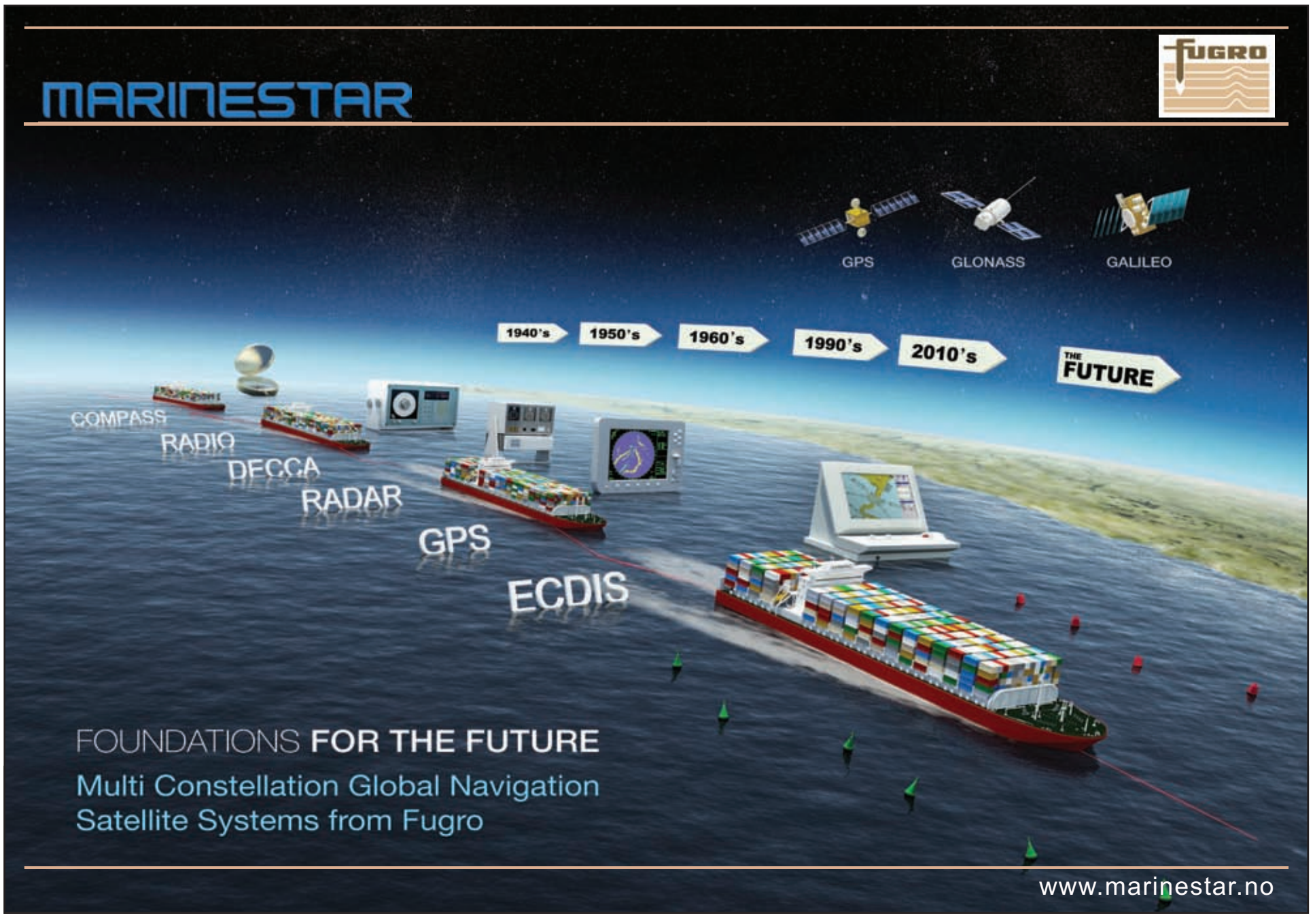
"4. The vessel's position was being monitored by the bridge team on ECDIS. However, they did not utilise the equipment to its full potential. Doing so, would have alerted them to the impending danger and the vessel's fast rate of approach towards the reef."

"5. The combination of an early and substantial reduction of speed, together with an appropriate alteration of course, would have safely cleared all vessels. Rule 8 (c) of the COLREGS advocates an alteration of course alone as the most effective collision avoidance action - but only when a vessel has sufficient sea room; a point not fully appreciated in this case."

With IMO's mandatory carriage requirement for ECDIS to be phased in from next year, incidents like these serve as useful reminders as to how the system can only improve safety onboard ship when applied by a competent bridge team, properly trained in its use, and taking advantage of the available features that can warn of potential dangers.

The alternative is to introduce a piece of equipment that can create an illusion of safety and actually increase the likelihood of an incident occurring by diminishing overall situational awareness as watchkeepers mistakenly believe that 'the machine will take care of it'.

As such, compliance to new regulations through the fitting of ECDIS is only half the story – training the crew in its use, and promoting its integration into a strong bridge team management process, are as important, if not more so, in running the equipped ship safely. DS



Spectrum pressures and radar

Continued expansion in communications technologies is squeezing the available radio spectrum to wring out as much bandwidth as possible for a data hungry public. But what effect will this continued spectrum pressure have on navigational systems? *Dr Andy Norris* looks at the potential impact

The incessant rise in bandwidth requirements for digital telecommunications is again in the news.

At the moment it is particularly relevant to the maritime navigational community as telecoms channels are wanting to squeeze into spectrum slots increasingly closer to the operating frequencies of both radar and GNSS.

This is creating fears that navigational safety could be compromised.

Of course, the maritime sector would benefit from an increase in the availability of affordable telecoms. For instance, safety and environmental benefits would arise if most navigationally relevant data was transmitted to the ship, since it provides a far lower latency route than paper based systems.

The ship could also be more effectively integrated into its corporate organisation, providing opportunities for increased financial efficiency.

It would also allow all the ship's critical equipment to be monitored by onshore systems, increasing the probability that problems are identified and mitigated before they become a dangerous or expensive failure.

Of increasing importance, off duty crew members would benefit from improved internet facilities, especially enabling contact with family and friends and therefore generally increasing the acceptability of being away at sea.

The ever growing demand for increased communications drives the development of new ideas and technology in that sector. It would be good if we could work from a clean sheet every so often to enable a far better use of the radio spectrum.

Unfortunately, we always have historical issues because of the longevity of any one system and the implied financial burden of change.

Instead we have to work with compromise and continuous improvements. Agreements and legislation have to be made at national and international levels and the results, as well as not meeting the theoretically best use of the spectrum, will inevitably not fully meet everybody's wishes.

Agreements and change

Agreements need to ensure that truly adequate notice is given if older systems are affected in any way and, obviously, safety should never be compromised.

Of course, legislation puts many requirements on all new services, not least to stop them from radiating interfering energy into the bands of existing systems. But this does not always resolve all the possible issues.

What appears to be a common problem is that the receivers on the older system can be over-sensitive to the new transmissions, even though they are in a different frequency band to the wanted signals. In the worst case these sensitivities can lead to a significant degradation in their ability to receive the wanted signals.

During the design process manufacturers take into account existing interference possibilities and ensure that their receivers are protected against these.

It is far more difficult to undertake the design for postulated future signals, and if attempted it can lead to either a costly over-design or to inadequate protection. The real issues often only become evident after the new systems are prototyped, when detailed measurements can be made.

The current situation for S-band radar is perhaps a good example of the process of spectrum change.

Radar is an integral part of ship navigation – concerns have been raised about how increased spectrum use for communications will affect the technology

Since 2002 new S-band shipborne radars have had to incorporate filters to ensure that their transmissions will not prohibit the future use of adjacent bands for telecommunications.

Fourth generation (4G) telecoms systems are increasingly wanting to operate at the available frequencies that are closest to the 2.9 - 3.1 GHz maritime radar band, now that most radars in use comply with the 2002 regulations.

The 2.6 GHz band has actually started to be used within Europe and there is growing interest in the use of telecoms systems operating in the 3.4 GHz band.

The UK has been particularly conscious of the potential safety issues and in the past few years there have been a number of studies, led by the Maritime and Coastguard Agency and by Ofcom, the regulator for the UK communications industries.

The latest report 'Communications signals in the 2.6 GHz band and maritime radar' has recently been published by Ofcom on its open-access 'Stakeholder' website.

It is based on the measured performance characteristics of two different radars and the measured signals of actual 4G transmissions, although the resultant effects on the radar display are determined by analysis. It correctly attempts to estimate the very worst case scenario, even if it is unlikely to be met in practice.

Ofcom's calculations indicate that 'the smallest measurable degradation in performance' – that is a 5 per cent fall in the probability of detection – may occur in the direction of a 2.1 nautical mile distant radio mast that is simultaneously transmitting on all 22 channels within the 2.6 GHz band.

A safety issue?

The report emphasises that although Ofcom is not in a position to comment on maritime safety, it considers that it has not, so far, been presented with evidence of a safety of life issue and so will be proceeding to a consultation phase on technical licence conditions for systems operating in the 2.6 GHz band.

In fact, as the report mentions, there are already 2.6 GHz telecoms services deployed within Europe, including base stations situated in coastal cities. There appear to be no reported instances of marine radar degradation.

However, to gain even more confidence, it would certainly be sensible that as countries deploy such systems they explicitly ask ships within the local area to carefully examine their S-band radar displays for any possible effects, just to rule out the unexpected.

Considering the conservative nature of Ofcom's predictions, it is highly likely that no noticeable performance degradation would be observable at any practically encountered distance to any specific telecoms mast, perhaps at distances even less than a few hundred metres.

Only targets on the same bearing as the mast would be affected. When the radar antenna is not looking in the direction of the mast, the effect on targets within the radar beam should be entirely unnoticeable, simply because the radar antenna sidelobes will significantly attenuate the 4G signal, generally at least by a factor of 200 and typically by 1,000 or more.

In comparison, constantly encountered events, such as sea and rain clutter, non-optimum settings of the radar controls, and the suboptimum positioning of the radar antenna on the ship can all contribute to a far greater degree of radar degradation, frequently leading to a complete obscuration of a target.

Also in practice, few users would be using the S-band radar so close to land, where the use of X-band is much more common, especially for port entry. The performance of the X-band system would be unaffected by the 2.6 GHz transmissions.

Of course, S-Band radars are only mandatorily fitted to ships above 10,000 gt.

It certainly remains difficult to believe that there is any real safety aspect involved but it does warrant some confirmatory tests being performed on some early deployed coastal 2.6 GHz systems.

Indeed, the Ofcom report states that the measured results used in the analysis are from a restricted number of radar and 4G transmitter examples, which may not be representative.

3.4 GHz systems

Importantly, things may not be the same with transmissions from 3.4 GHz 4G systems.

In fact a study performed in 2009 on behalf of the UK MCA has indicated that such transmissions appear to be more detrimental to existing maritime radars than is the case for 2.6 GHz systems.

If this is confirmed when more detailed work is carried out, it will probably be due to the fact that some designs of radar receivers are unduly sensitive to transmissions at these frequencies.

Until this is quantified, coastal states need to be cautious in allowing 3.4 GHz systems to be located where they could jeopardise marine navigation.

If it does turn out that there is a significant problem on existing radars the implications will have to be carefully managed over time.

In the worst case, depending on the severity of any possible problem, it could result in a cut-off date when all marine S-band radars would have to be modified or replaced such that they are not affected by telecoms transmitters complying with ITU requirements.

This would be an extreme measure and can presently be considered as an unlikely outcome. DS

Dr Andy Norris has been well-known in the maritime navigation industry for a number of years. He has spent much of his time managing high-tech navigation companies but now he is working on broader issues within the navigational world, providing both technical and business consultancy to the industry, governmental bodies and maritime organizations. Email: apnorris@globalnet.co.uk

Anytime, Anywhere, Stay Connected with KNS

At KNS, we pride ourselves in providing you with customer service that matched the quality of our product. That is why our highly trained engineers will assist you in selecting the right system for any vessels in any location. Our balanced team of managers, engineers, technicians and state-of-the-art equipment will cover all your maritime communication needs. Our goal is to offer you the fastest and most reliable service with guaranteed satisfaction. KNS invites you to explore our capabilities, services and quality. To learn which SuperTrack Series can help your maritime business stay connected, call us at **+82-42-932-0351** or visit us at **www.kns-kr.com**

SUPERTRACK SERIES

A-Series ▸ K-Series ▸ S-Series ▸ Z-Series ▸

KNS

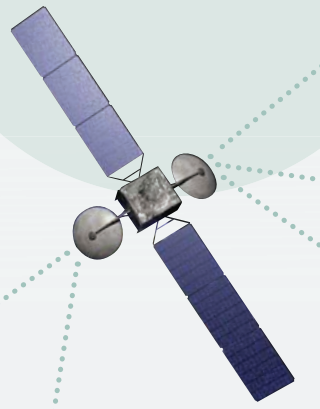
1314, Gwanpyeong-dong, Yuseong-gu,
Daejeon, South Korea, 305-509
T +82 42.932.0351 F +82 42.932.0353

marintec China

**** Visit us at MarinTec 2011 at booth #3L13***

WaveCall™ by Marlink

When the world is your workplace...



...trust the world's preferred supplier of satellite communications

www.marlink.com

WaveCall™ by Marlink

- High speed connectivity – access data applications at speeds of up to 1 Mbps
- Regional, multi-regional and global coverage
- Fixed monthly pricing for unlimited usage
- Simultaneous voice and data services
- High Quality of Service (QoS) for voice calls with prices starting as low as as US$ 0.05 per minute
- 24/7 global customer support

For full information contact Marlink
or visit www.marlink.com

Worldwide (24/7)
Tel +32 70 233 220
Fax +32 2 332 33 27

USA
Tel +1 800 868 5735
Fax +1 713 946 0403
(Houston business hours)

customer.service@marlink.com

MARLINK®

OSLO • LONDON • HAMBURG • BRUSSELS • ATHENS • DUBAI • MUMBAI • SINGAPORE • TOKYO • WASHINGTON DC • HOUSTON