

# Digital Ship

October 2011

www.thedigitalship.com

## 122-vessel satcom deal for Reederei CP Offen

German shipping company Reederei Claus-Peter Offen has agreed a 122-vessel deal with Stratos for FleetBroadband services, part of a programme which will also see the company install the 20,000th SAILOR FleetBroadband antenna

Reederei Claus-Peter Offen has agreed a deal with Stratos for the provision of Inmarsat FleetBroadband airtime services for its entire fleet of 122 commercial vessels.

Reederei Claus-Peter Offen (CP Offen), based in Hamburg, is one of the world's largest suppliers of modern commercial ships, including the 122 container vessels, tankers and bulkers.

On the CP Offen fleet, Stratos will integrate FleetBroadband with AmosConnect – its maritime communications application – to manage all interoffice communications.

The integrated offering also

includes AmosConnect with Stratos ChatCards, used for crew welfare services including calling and private e-mail at flat global rates, and with a separate account for each crewmember.

“Moving to FleetBroadband from Stratos ensures our vessels can benefit from the most advanced business and crew applications, while meeting the growing demand for bandwidth, in a highly cost-effective manner,” said Ascan Roosen, head of CP Offen's IT department.

“Stratos is providing excellent service and is acting as a true partner in this important technology conversion.”

As part of its FleetBroadband upgrade programme CP Offen is also helping Thrane & Thrane to pass the milestone of having installed 20,000 SAILOR FleetBroadband antennas, which the Danish company has now achieved in less than four years since Inmarsat launched the service in November 2007.

The 20,000th antenna will be installed on one of CP Offen's vessels by European Satellite Link (ESL). The German shipowner started to replace its old Inmarsat-B systems in 2010 and says it has already experienced the operational benefits of improving the connection between the vessels and office.

These experiences prompted CP Offen to extend its use of the system and equip each vessel with two SAILOR 500 FleetBroadband antennas.

“Thrane & Thrane designed SAILOR FleetBroadband for the maritime environment and shipowners recognise the reliability that this brings with it, hence it becoming the clear market leader,” said Henrik Christensen, CEO, ESL GmbH.

“The work to upgrade Reederei Claus-Peter Offen's vessel communication systems is well underway and we are proud of the fact that the 20,000th SAILOR FleetBroadband terminal is part of this project.”

“Combining the high quality and

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The entire CP Offen fleet will operate with FleetBroadband

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## “One Unique Interface”

- Pietro Amorusi, Chief Information Officer, d'Amico Società di Navigazione S.p.A.

From its headquarters in Rome, d'Amico Società di Navigazione S.p.A. operates more than 40 cargo ships in a worldwide trade. The ships are equipped with a combination of Inmarsat Fleet, FleetBroadband and VSAT systems.

“We faced numerous challenges managing our ships due to the diversified communication structure. Dualog Connection Suite is a single and unique interfacing tool.” says Pietro Amorusi, CIO of d'Amico. “The new solution has directly improved our efficiency and, it saves us money.”



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

# Digital Ship

Vol 12 No 2

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

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Subscribe online at  
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venter@thedigitalship.com,  
tel +44 (0)20 7017 3407

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Athens Metropolitan, Athens  
22 - 23 November 2011

DIGITAL SHIP ISTANBUL  
Pera House  
1 December 2011

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

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continued from page 1

proven track record of the SAILOR 500 FleetBroadband with the solution we have developed together with Reederei Claus-Peter Offen has proven very advantageous for the shipowner and we are proud to receive a contract extension based on this."

The take up rate for the SAILOR FleetBroadband systems has been impressive, with Thrane having only announced that it had shipped the 10,000th SAILOR FleetBroadband terminal in May 2010, just 16 months before this latest milestone.

"In addition to shipping SAILOR FleetBroadband number 20,000 in September, we also made an agreement with Inmarsat to develop terminals for Global Xpress, which shows that our continued efforts to bring new solutions to support the safety and efficiency of ship operations is working well," notes Walther Thygesen, CEO, Thrane & Thrane.

"Along with our 30th anniversary celebrations happening right now, it's safe to say that the mood in Thrane & Thrane is very positive."

## Global Xpress

Thrane's confirmation as the latest Global Xpress partner means that it will become the second manufacturer approved by Inmarsat to provide antennas for use with the forthcoming Ka-band service.

The companies said that a new range of Thrane & Thrane SAILOR terminals will be available for operation on the service when it goes live in 2013. Thrane also told Digital Ship that it is working on an upgrade path for its recently launched SAILOR 900 Ku-band antenna system, though no release date for this system has yet been announced.

Thrane joins Sea Tel as an approved Global Xpress antenna manufacturer, with that first antenna agreement having been announced in March 2011.

"We are delighted to have reached this agreement with Thrane & Thrane as it means our maritime customers will have a wider choice of terminals for our super-fast broadband network," said Frank Coles, senior director - maritime, Global Xpress.

"SAILOR terminals have proven the most popular for all recent Inmarsat maritime services and this makes us confident that Thrane & Thrane's partnership will be a very positive asset as we gear up for the launch of Global Xpress."

Inmarsat also notes that having these two antenna types available will mean that Thrane & Thrane is uniquely posi-



Thrane is working on an upgrade path for its SAILOR 900 Ku-band VSAT antenna, which would allow the systems to be converted to Ka-band

tioned in its ability to offer L-band/Ka-band combination packages.

"The higher data speeds and compact terminals mark Global Xpress as an important development in the world of maritime communications," says Casper Jensen, vice-president, maritime business unit, Thrane & Thrane.

"We are keen to use the knowledge and experience we have acquired as a long-standing Inmarsat manufacturer to ensure the new SAILOR terminals capture the promised speed, reliability and flexibility of the forthcoming new service."

## Flat fees and Ka-band upgrades

In related news, Stratos has also announced the commercial availability of its Inmarsat FleetBroadband Flat Fee service plans, known as FBB Flat Fee, offering 10 GB and 15 GB per-vessel data connectivity options over FleetBroadband 500 for a flat monthly price.

The prices for these services have not been disclosed, though Stratos has said that if a vessel exceeds the plan's monthly data allocation the price will not increase, but data speeds will be reduced.

The plans also include what Stratos calls "highly competitive rates" for voice calls.

Contract periods range from two to four years, and Stratos claims that the four-year contract period represents "the most competitive FleetBroadband commercial offering on the market today."

Stratos also offers the option of a three-

month, paid trial period, during which customers can upgrade or downgrade their FBB Flat Fee data allocation or contract duration.

The plans have already been deployed by Stratos for a number of its existing customers, as well as by Navarino Telecom, for shipmanagement companies Grieg Shipping Group, OSM Ship Management and Ugland Marine Services, among others.

FBB Flat Fee also represents one of Stratos' programmes that will provide shipping companies with a pathway to Inmarsat's Global Xpress Ka-band service.

Customers contracting for FBB Flat Fee plans from Stratos can upgrade to Global Xpress without penalty when that service is commercially available in 2013.

"Many of the world's leading shipping companies are demanding higher volumes of data - with the dependability of L-band satellite communications - to support critical applications," said Joe Apa, Stratos vice president, global maritime.

"They also want to choose from a range of price plans that meet their specific requirements. We are meeting those demands with simple, affordable plans such as FBB Flat Fee, in addition to our managed global broadband service XpressLink."

"Our wide range of broadband solutions proves that we are ideally suited to help expand our customers' communications capabilities as we prepare for the availability of Inmarsat's Global Xpress services."

DS

## FB packages expand to single-vessel operators

www.stratosglobal.com

Stratos reports that it has become the first Inmarsat Distribution Partner to activate Inmarsat's new FleetBroadband Large Money Bundle for single-vessel operators and fleets with fewer than 10 vessels.

The new Large Money Bundles offer a fixed monthly rate package which includes monthly data-connectivity plans up to 5GB.

The Large Money Bundle in question

was activated by Stratos Channel Partner e3 Systems (e3) for a private sailing yacht built by Royal Huisman in Holland.

"These new plans are generating a high level of interest among the yachting community," said e3 managing director, Roger Horner. "They offer predictable costs, regional and global coverage, flexible usage and payment programmes, as well as the added value of The Stratos Advantage services."

"We activated the plan onboard the

yacht within days of its launch. The yacht's captain now is examining Stratos Dashboard online monitoring tools and Stratos Trench firewall to ensure the highest possible broadband performance, security and cost control."

"These plans are a perfect solution for sailing yachts, yachts with itineraries outside traditional VSAT footprints and yachts with space and weight restrictions on which it is difficult to install a 1m VSAT antenna."

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# SCF tanker maintains contact during NSR voyage

The Suezmax tanker Vladimir Tikhonov, owned by SCF Group (Sovcomflot), has recently completed a transit along the Northern Sea Route (NSR), the high-latitude route from Europe to Asia through the Arctic, managing to maintain communications links with the company's offices throughout the voyage.

The 160,000 dwt vessel, carrying a commercial cargo of over 120,000 tonnes of gas condensate, used Russian GLONASS (Global Navigational Satellite System) technology for positioning (similar to GPS), as well as Iridium services for satellite communications.

Using these systems the tanker sent repeatedly updated monitoring data back to shore, including technical parameters on position, course, speed, distance covered and weather conditions.

Vladimir Tikhonov's passage followed a new deep-water route to the north of the New Siberian Islands archipelago. The total NSR transit was almost 2,200 nautical miles, from Cape Desire (New Earth Island) in the Kara Sea to Cape Dezhnev in the Bering Strait. It was accomplished by the tanker in less than 7.5 days.

The expected time saving from the

port of departure to the port of discharge, compared to the traditional route through the Suez Channel, amounts to some seven days.

Preparations for the voyage and studies of the navigation and hydrographic

support en route, as well as environmental safety measures, were carried out in close cooperation with a number of organisations, including the Russian Ministry of Transport, Federal Agency of Maritime and River Transport, and Federal State

Unitary Enterprise Atomflot.

For SCF Group this is the second transit voyage from the Atlantic to the Pacific Ocean along the Northern Sea Route.

In August 2010, this route was successfully completed by the 100,000 dwt Aframax class tanker SCF Baltica, which was the largest ship ever to complete the NSR route through the Arctic before the Vladimir Tikhonov.

"The successful navigation of a large-capacity Suezmax class vessel along the Northern Sea Route is the result of complex and systematic work by SCF Group, which participates in large scale energy-projects on Russia's continental shelf," said Sovcomflot president and CEO, Sergey Frank.

"Our focus is on the further development of economically viable and sustainable routes for hydrocarbons transportation, serving the evolving needs of major oil and gas companies."

"By opening up a new, commercially viable, route across the Northern Sea, SCF Group is effectively providing a 'floating sea bridge', linking the high potential offshore fields of Russia to major international energy markets."



*Vladimir Tikhonov maintained communications throughout its passage through the Northern Sea Route*

## INFINITY installed on 150 vessels

[www.navarino.gr](http://www.navarino.gr)

Navarino reports that its INFINITY maritime satcom bandwidth management and optimisation system has now passed the milestone of 150 installations.

The company says that, at the current rate of take up, it is on course to reach 600 installations by the second quarter of 2012.

INFINITY was initially designed to increase the efficiency of Inmarsat FleetBroadband packages, but recent updates have now also made it fully compatible with other IP-based systems like VSAT or Iridium OpenPort.

The system is comprised of a ruggedized standard onboard computer with INFINITY software and a web portal from which administrators on shore can manage their vessels' satcoms and networks.

The service offers compression, a web accelerator, proxy caching onboard, image reduction, ad blocking, traffic filtering and automatic file synchronisation.

In addition, a number of administrative tools are included for traffic measurement (providing graphs, statistics and logs of all events), split billing, vessel positioning, connectivity status reporting and voyage histories.

Navarino notes that most of the vessels that have installed INFINITY to date have combined it with the very large allowance (VLA) or shared corporate allowance plan (SCAP) FleetBroadband packages of more than 1GB, prompting the company to incorporate INFINITY as part of its FleetBroadband packages.

"Without doubt, INFINITY has been the main reason that Navarino has met such great success in the FB large allowance packages," said Konstantinos Katsoulis, vice president of sales and marketing at Navarino.

"INFINITY is the ideal tool for shipping companies to increase the efficiency of their satcoms, to offer more crew welfare options to the crew and to reduce their monthly cost."

## AND Group becomes FB distribution partner

[www.and-group.net](http://www.and-group.net)  
[www.inmarsat.com](http://www.inmarsat.com)

AND Group has been appointed as a distribution partner for Inmarsat's FleetBroadband service.

AND Group can now distribute the full range of FleetBroadband services, from FB150 through to FB500, as well as Inmarsat's satellite phone services, which include FleetPhone for the marine environment and the global handheld satellite phone IsatPhone Pro.

"We have achieved some significant customer wins with FleetBroadband, across the whole family of services," said Ian Robinson, CEO of AND Group.

"This is good news for us and our customers. Being appointed as an Inmarsat distribution partner will enable AND Group to build on our success, offer our customers better services and long-term value, and grow our business."

"We already have offices in the UK, Greece, Singapore and Brazil and will be looking to extend our network to offer the services on a global basis."

With the appointment of AND Group there are now 14 FleetBroadband distributors, which sell both direct and through a network of service providers.

"We are delighted to welcome AND Group as a FleetBroadband distributor," said Perry Melton, COO of Inmarsat.

"AND Group has built a solid maritime business and a strong reputation for knowing what maritime customers need."

"We are excited about the potential for AND Group to tap into two key areas of growth for FleetBroadband: migrating their customers who are inadequately served by their current satellite communications services, and securing new customers and exploring new parts of the market."



*Ocean Signal GMDSS radio – approved in the US*

**Ocean Signal** has announced that its SafeSea V100 GMDSS hand-held radio has been granted type approval by the US Federal Communications Commission (FCC) for conforming to the relevant requirements for a portable survival craft two-way VHF radiotelephone, allowing its use on US registered vessels.

**Stratos** has opened what it calls Global Installation & Service Centers (GIS Centers) in four major maritime regions - Rotterdam, Hong Kong, Singapore and Louisiana. Staffed with Stratos Field Engineers, they can draw upon a network of Stratos Installation Partners to provide

installation, onboard maintenance and ongoing support for Stratos products.

**Thrane & Thrane** has recently celebrated 30 years in business, having been formed on 29th September 1981 by brothers Lars and Per Thrane in Lars' basement. The company has grown from having 5 employees in August 1982 to having more than 600 based around the world today.

[www.oceansignal.com](http://www.oceansignal.com)  
[www.stratosglobal.com](http://www.stratosglobal.com)  
[www.thrane.com](http://www.thrane.com)



*Per and Lars Thrane started the company in 1981*

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## Marlink and Sea Tel continue support for Project Kaisei

www.marlink.com  
www.seatel.com

Marlink and Sea Tel have announced the continued joint provision of satellite communications support to Project Kaisei for a third expedition.

Project Kaisei, set-up by Ocean Voyages Institute of California in 2008, seeks viable solutions to the growing problems associated with marine debris in the North Pacific Gyre, which can then be developed for all oceans of the world.

Under the agreement, Marlink and Seatel have donated VSAT antenna equipment and airtime to Project Kaisei providing Ku-band coverage with the aim of facilitating voice and broadband internet in the remote areas that Project Kaisei will be operating in.

The satellite communication services are anticipated to provide the Project with



Project Kaisei is aiming to clean up the oceans

real-time weather updates, blogging and emailing options, photographs and video and support a broad range of applications.

"This problem is happening in all the world's oceans, so we are dedicated to finding solutions to this urgent issue,"

comments Mary T. Crowley, president of the Ocean Voyages Institute and co-founder of Project Kaisei.

"Continued support from our partners such as Marlink and Sea Tel is instrumental in helping to achieve this."

## 53-vessel VSAT deal for Farstad Shipping

www.harris.com

Farstad Shipping, a supplier of offshore supply vessels that operate in the North Sea, Brazil, Australia and Indian Pacific regions, is to install VSAT communications on its fleet of 53 vessels.

Harris CapRock will deploy the end-to-end VSAT communications via a Time Division Multiple Access (TDMA) network, to be used for corporate networking, internet access, crew calling solutions and e-mail service, as part of a

5-year contract.

The turnkey solution includes equipment and installation, service and 24/7 support from Harris CapRock's help desk.

"We need a reliable information and communication technology infrastructure onboard our vessels to support our values and meet our crew and clients' needs," said Helge Warholm, corporate purchasing manager, Farstad Shipping.

"Harris CapRock's SeaAccess service enables us to extend our corporate appli-

cations to the vessels and provide critical maintenance, operations and administrative services. As a result, the vessels operate more efficiently and in turn it reduces our operational costs."

"We've been very satisfied with the reliability of the SeaAccess service and Harris CapRock's global reach for installations and maintenance. We had five pilot vessels leveraging the SeaAccess service and it met our needs for service availability and quick installs as the pilot vessels were dispersed around the globe."

## Wilson to install FB on 80 vessels

www.marlink.com

Marlink has signed an agreement with Wilson Ship Management, one of the largest shipping operators in the European short sea segment, to provide 80 of its ships with FleetBroadband.

The 36 month contract will see airtime being provided under an Inmarsat SCAP (shared corporate allowance package). The full service package also includes hardware from Thrane and Thrane.

Other Marlink Value Added Services such as Vizada Traffic Manager and Data Manager will be provided, with a specially designed Data Manager fleet log-in having also been created for Wilson in order to keep the management of fleetwide system settings as easy as possible.

"This is an important contract for Marlink, as Wilson Ship Management is a major operator in this sector with over 110 ships in its fleet," commented Marlink CEO, Tore Morten Olsen.

"Being able to offer, install and service the complete package has meant that we can deliver and have their communication systems in full operation in the shortest time possible. This extremely important factor was taken into consideration when the management team at Wilson made their decision."

"While this order is for 36 months we are confident in our service and will ensure that this is a long term relationship in the future."

## Trouble for Globalstar

www.globalstar.com

Globalstar has had to deal with some unwelcome challenges over the last month as it was faced with a launch setback in its bid to introduce its second generation satellite network, as well as a warning from the NASDAQ with regard to its stock listing.

The delay of the company's upcoming launch of six second-generation satellites, planned for mid-October, came after Russian Space Agency officials notified Globalstar that it needed to undertake complete inspections of all Soyuz 2.1a launch vehicles, including three to be used for launches to the International Space Station as well as the Globalstar satellites, following a recent launch failure.


Globalstar has since been informed that the launch can take place in early December, once the Russian Space Agency has completed its inspections of the launch vehicles in question and given the all-clear.

This December launch, if it goes ahead, will be the latest in a series of launches for Globalstar's new network conducted by Arianespace, after the first two successful launches in October of 2010 and July of 2011.


News of this delay was followed by the announcement that Globalstar has received a notice from the NASDAQ informing the company that, for 30 consecutive business days, the bid price of Globalstar common stock had closed below the minimum \$1.00 per share requirement for continued inclusion.

Under the terms of the notice Globalstar will be provided a grace period of 180 calendar days, or until March 12, 2012, to regain compliance by returning to close at \$1.00 per share or more for a minimum of 10 consecutive business days.

The company had previously, in the second half of 2009, received a similar notice from NASDAQ, and on that occasion successfully moved back into compliance well before the 180-day deadline.




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## C A Clase introduces KVH marine TV system

www.caclase.co.uk

UK marine electronics distributor C A Clase has announced the launch of the KVH TracVision HD11 satellite TV system for the commercial market.

The HD11 aims to allow vessels to travel the world and switch between satellite TV services without the need for hardware and software updates when entering new regions.

The company says that the HD11 is the first marine satellite TV system to offer a digitally programmable multi-beam Universal World LNB that is compatible

with all direct-to-home satellite TV services and HDTV programming, along with a library of 100 available satellites.

The 1m antenna provides unlimited HD and DVR support and utilises KVH's TriAD multi-band antenna design for simultaneous tracking of Ka- and Ku-band satellites.

It also features an Internet Protocol-enabled Antenna Control Unit (IPACU) and uses a four-axis (three-axis plus skew) stabilised smart antenna system with robotic direct drive.

Additional features include RF7 satellite identification, integrated DVB-S2 compatibility and dual tuners, making the sys-

tem capable of updating itself when service providers make changes to their satellite parameters.

"The HD11 really is a phenomenal product which has been developed in response to demand from the commercial shipping market," said Andy Banting, commercial marine sales at C A Clase.

"Every commercial vessel has unique needs and the HD11 has numerous sophisticated features, and makes use of the latest technology available to meet these needs."

C A Clase is offering the antenna priced at £19,915.83 plus tax.



The KVH HD11 antenna is designed to deal with various television signals across different regions

## SAILOR 900 added to Marlink VSAT portfolio

www.marlink.com  
www.thrane.com

Marlink and Thrane & Thrane have come to an agreement for the introduction of the new Thrane & Thrane SAILOR 900 VSAT antenna, whereby Marlink will add the new Ku-band antenna to its VSAT portfolio.

SAILOR 900 VSAT is a four-axis stabilised Ku-band VSAT antenna, which the company says can be integrated with all leading VSAT modem units. The Antenna Control Unit (ACU) features multiple LAN and diagnostics ports, as well as

Built-in Test Equipment (BITE).

Thrane notes that during the development and testing of the SAILOR 900 its in-house engineers were supported by Marlink with advice for the Ku-band antenna design, on how to meet the requirements of its maritime customers.

As part of this process Thrane built an antenna testing and simulation facility at its headquarters featuring a multi-axis hydraulic motion testing and simulation platform that uses real-life vessel motion and conditions, to test the reliability of the SAILOR 900 VSAT whilst it is connected

to a live satellite.

"As one of the leading maritime satcoms service providers, Marlink's input during the development of the SAILOR 900 VSAT was invaluable," said Casper Jensen, VP maritime business unit, Thrane & Thrane.

"SAILOR 900 VSAT will of course be offered through our entire global partner network, but we are delighted to continue our long relationship with Marlink and co-operate closely as we gear up to bring an innovative new product to the VSAT space."

## Globe installs 100th VSAT

www.globewireless.com

Globe Wireless has announced that it has completed the 100th installation of its VSAT solution, having first started installing the technology in May 2008.

The Globe Wireless VSAT system offers integrated onboard systems control, LAN segregation, VoIP, GSM, and VPN services.

It also includes the company's Globe i250 hardware package, designed with built in data compression, web optimisation, firewall and a FleetBroadband 250 as a backup.

The FleetBroadband will be used to provide users with continued communications in case of VSAT blockage or down time, allowing engineers to use the i250's 'back door' feature to troubleshoot the system.

"Globe Wireless has continued to expand the number of people in our dedicated VSAT group in the last six months as we increase the number of VSAT installations," said Brad Rogers, Globe Wireless VSAT manager.

"The team provides 24/7 live support, and customised solutions to meet specific customer needs on QoS, as well as network configurations. We look forward to continuing the installations and expansion of our VSAT service with our dedicated support and installation team."

## Horizon and SingTel in partnership deal

www.onehorizongroup.com  
www.singtel.com

One Horizon Group has announced that its wholly-owned subsidiary, Horizon Globex, has signed an agreement to provide its Horizon platform to Singapore Telecommunications Limited (SingTel).

Horizon provides optimised communications over the internet based on the company's SmartPacket technology, which offers voice over internet protocol (VoIP) at bandwidths of only 2kbps.

The package also includes a range of

other data applications, including compressed e-mail, optimised web browsing and instant messaging, with pre-paid and post paid billing options.

Under this strategic partnership, SingTel's satellite division is to sell the Horizon solution as part of its offering to the maritime market.

"Horizon will provide maritime customers with a whole new level of efficiency in their satellite communications," says Mark White, CEO of One Horizon Group, "and total control of their data consumption so they are much better placed to

manage their fleet communications costs."

"This is vital to improving crew welfare and retention by enabling them to provide employees access to low-cost telephony and internet services."

"This is an important milestone for our company, as the decision to adopt Horizon by one of the world's leading telcos is a powerful endorsement of this game-changing solution. We now have the opportunity to significantly increase the number of new customers who can benefit from this step-change in maritime communications."

## Aalesund Data unveils maritime bandwidth optimiser

www.aaledata.no

Norwegian IT company Aalesund Data AS has introduced its latest iTrust Bandwidth Optimizer (IBO), with IBO v3.3 representing the third generation of the company's vessel communications management system.

The hardware-based solution can be used to control usage of multiple satellite communications services onboard a ship, be they VSAT, Inmarsat, Iridium or any other system, incorporating failover capabilities and automatically selecting the fastest available connection.

The IBO can also operate with shore-based wireless communications, such as ICE, GSM, and GPRS.

To differentiate between operational and personal communications the system provides multiple LAN connections, with

routing, offering subnet capabilities that allow the administrator to split the onboard network into multiple separate subnets.

Aalesund says that this could, for example, mean that a separate crew-network, bridge-network, medical-network or any other type could be incorporated. In such a case crew would have no access to the bridge-network, to ensure security and help in prioritising traffic.

Built-in web caching is also included, to improve the web browsing experience while minimising data transfer.

The company suggests that the technology can produce a 300 per cent perceived gain in network speed when browsing, with filtering systems also available within the unit to allow specific web sites to be blocked out should the company require it.

In addition to this, firewall, antivirus and VPN capabilities are all available on

the IBO system.

Aalesund says that the cost of the IBO unit is in the range of US\$1,700-4,700, depending on the number of features included and on the number of units purchased.

The first production-ready IBO, IBO

v1.1, was launched in 2009, and the company says that later models have since been installed on approximately 50 vessels.

A trial period testing the latest generation IBO has now been completed, and the first production units have already been delivered to the first vessels in Norway.



IBO v3.3 can be used with VSAT, Iridium or Inmarsat systems

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# 400-600 MB per vessel with hybrid satcoms

**Hapag Lloyd has begun a project to exchange the satellite communications systems installed across its entire owned container fleet, moving to a hybrid L-band/Ku-band system. Martin Gnass, Hapag Lloyd, says the company is expecting to need 400-600 MB per vessel per month by 2013 and told *Digital Ship* why he chose this solution**

**H**amburg based shipping company, Hapag Lloyd, operates more than 135 ships, approximately fifty of which are to be equipped with Stratos' FBBPlus service as part of a satcom project initiated in 2011 and set to be completed over the course of the next two years.

Under an agreement concluded in February 2011, the Inmarsat-owned satellite communication provider will supply its FBBPlus solution – combining L-band FleetBroadband with Ku-band VSAT – to all of Hapag Lloyd's owned vessels, thus uniting the entire fleet under a uniform communication technology that Hapag Lloyd has described as "state-of-the-art."

So far, six of the nearly fifty vessels to be fitted have exchanged their old communication technology for FBBPlus as part of a roll-out that will continue throughout 2011 and 2012. By the end of next year Hapag Lloyd intends to have both existing vessels and a number of the already commissioned newbuilds equipped with the service.

Hapag Lloyd began reassessing its satellite communication system during 2009. The company soon decided that its existing assortment of limited bandwidth communication systems was ill suited to keep up with its plans for future services and operations.

Aware of the expansive scope of the project, as well as the investment that would be required, Hapag Lloyd began working on an implementation strategy during 2010 which would take into account the various different available options, offerings and suppliers.

Although the company had been working with Stratos previously and had been pleased in its experience with the solutions, it openly invited other providers to tender for the contract. However, none were able to trump Stratos' offering, and the FBBPlus contract was agreed.

"We did very extensive market evaluation, opening up a market tender," says Martin Gnass, managing director IT at Hapag Lloyd. "And we are very confident that we have found the best partner. This has so far been confirmed throughout the project."

The onboard implementation of the new hardware is being conducted jointly by Hapag Lloyd and Stratos, and follows a three-step approach.

The first step is the performance of a site-survey of the vessel in port, which generally takes a few days. This is followed by a second stage where the details of the installation are prepared, and then a third step involving mounting and commissioning the antenna with installation of all the components, cables and connections.

Typically, the entire installation is carried out when the vessel is in port, though in some cases it has been possible to contin-

ue the journey and finish the implementation while underway, which saves the company waiting time as well as port dues.

Hapag Lloyd says the experience with this approach has been satisfying and that, so far, the implementation is going according to plan.

"Our preliminary assumptions have turned out to be reliable," said Mr Gnass. "The system is stable and we have not had any negative surprises."

"The seamless integration of the new system has only been possible because of the good preparations from Hapag to have the ships ready and the good cooperation of our partner, Stratos."

## Real-time communication

According to Mr Gnass there were several reasons behind Hapag Lloyd's fleetwide implementation of a new satellite communication system. Foremost amongst these driving factors were operational, technical and legal considerations, areas that were now requiring higher bandwidth than had been previously available on the vessels with the existing systems.



*Hapag Lloyd expects each of its vessels to be generating between 400MB and 600MB of satcom traffic by 2013*

Hapag Lloyd, as a global liner shipping company, offers services covering all continents so on the operative side it was considered key that the new satellite communication system would provide worldwide coverage.

A further key operational consideration was the ongoing expansion of voice and data traffic for ship-to-shore communication, for which, the company realised, much higher bandwidth would be needed.

Remote management and maintenance is also something which, although it has been performed by Hapag Lloyd for the last couple of years, has been limited by the restricted bandwidth available via the previous satellite communication systems.

Since the company not only uses remote access for the engine but increasingly controls IT applications and systems onboard remotely, as well as updating

electronic charts over the satellite, it was clear that the existing systems were in need of replacement.

"We also want to integrate the ships better into our own Hapag Lloyd network, which means that ship-to-shore communication will grow more and more important," explains Mr Gnass.

"In addition, a growing number of applications on our vessels require real-time connection to our shore organisation, such as remote maintenance of the engine and monitoring of IT systems onboard."

"Another possibility is real-time data synchronisation for documentation, as well as for the fleet management."

These examples are indicative of Mr Gnass' belief that the number of applications needing remote management will significantly grow in the future.

Finally, on top of these operational aspects of its decision, Hapag Lloyd also felt it was necessary to exchange its communication technology in order to comply with legal requirements imposed by international bodies such as the International Maritime Organisation (IMO).

Overall, Hapag Lloyd anticipates that its bandwidth consumption will grow about 30 per cent per year with the new technology. The key driving factor for this increase will be additional applications enabled by the systems that the company has not extensively utilised so far.

Prominent amongst these are things such as file transfers, online software updates, maintenance, document exchange and electronic chart distribution, all of which require more bandwidth and more data traffic.

With all of this in mind, by 2013 Hapag Lloyd expects to reach an average traffic level of 400-600 MB per vessel per month.

Even at that level there will still be usage monitoring under the new system, despite the fact that Stratos' solution comes for a flat-fee. According to Mr Gnass, the main reason for this is the desire to keep track of how the consumption of the bandwidth is evolving over time, in a real-life environment.

"There are still certain rules and restrictions in place with regards to web content," explains Mr Gnass. "For example we do not allow video streaming."

## Satisfying growing demand

Hapag Lloyd says that the improvements it hoped for have so far been achieved, and highlights that with the implementation of the new technology the foundation has been laid to introduce more applications and solutions, especially for ship-to-shore communication and fleet management systems.

"We are stepping into a domain of ship-to-shore communication that is new and has not been there so far. This will be growing ever more important," explains Mr Gnass.

"The fact that we have broadband and real-time communication from the vessels via voice and remote management and the supply of electronic charts are the main drivers (of growing data traffic). Based on this technology we will be able to improve the service level of our vessel operations."

Hapag Lloyd says it has already realised savings on time and cost and is looking forward to increasing efficiency once all vessels have been deployed with FBBPlus.

"Some of our applications, so far, required onboard technical support since remote maintenance possibilities were limited," says Mr Gnass.

"Under the new solution we are looking forward to improving that, and also reducing the travel costs and onboard visits. We have already been able to reduce the amount of man-hours spent on sending technicians out to the vessels."

Overall, Hapag Lloyd envisages a pay-back period of less than two years.

Another additional benefit of the

"We have to ensure that we comply with the IMO regulations, for example regarding external communication," says Mr Gnass.

"Under the new system we have more sophisticated redundancy channels and are able to offer two independent communication lines and concurrent transmission of data as well as voice."

"All these requirements have come together in our decision to implement FBBPlus. We would not have been able to keep up with the existing satellite communication systems on our vessels as they will be outdated in a few years."

## Usage patterns

According to Mr Gnass, the implementation of the new systems has already had an effect on satcom traffic, even though it has so far only been deployed on six vessels.

FBBPlus solution is seen in its providing a path to upgrade to Ka-band satellite communications services, once these become available in the market – an option that Hapag Lloyd is willing to take into consideration.

The implementation has also brought advantages for the crew, who have been highly appreciative of the new technology, which adds to the operational and commercial benefits for the company.

In the past there was a limited possibility to make phone calls onboard, restricted to the vessel's stays in port and where the costs would be charged to the crew member's account.

"The implementation of FBBPlus will provide more possibilities to increase crew welfare in the future," says Mr Gnass, "we are working on concepts and offerings in this regard."

### Criteria of choice

Ultimately, Hapag Lloyd believes that, in these early phases, it has so far managed to conduct a relatively pain-free introduction of the new technology, and is able to offer some words of advice to shipping companies looking into exchanging their own shipboard communication systems.

A first key factor to look out for, according to Mr Gnass, is the technical stability of the solution. Secondly, and no less important, is the coverage available, which in Hapag Lloyd's case needs to be global.

In addition, shipping companies are advised to watch out for a proven track



*The implementation of FBBPlus will provide more possibilities to increase crew welfare in the future'*  
– Martin Gnass, Hapag Lloyd

record of successful implementations. Mr Gnass points out that the reliability of partners is very important in order to give your investment a solid and steadfast base.

Finally, he acknowledges the necessity for any organisation to look for a commercially attractive package.

Mr Gnass sums this up in these words: "You need a partner that is capable of delivering a solid solution for a long term, that requires competency, knowledge and expertise. We found this with Stratos." **DS**

## Iridium aims to use the Force

[www.iridium.com](http://www.iridium.com)

Iridium has announced the launch of a range of new mobile satellite communications services, which it says will be part of a new 'Iridium Force' strategy.

Iridium Force aims to leverage the company's satellite network to widen communications availability beyond its satellite phone and OpenPort businesses, to include products and applications incorporating technologies such as Wi-Fi and location tracking.

The company also says that it is opening and licensing its core technologies and its network for collaboration with a broader set of potential partners, to create new products.

What might be of particular interest to maritime users are its new services that will allow Wi-Fi-enabled smartphones, tablets and laptops to connect anywhere on the Iridium global network.

Iridium AccessPoint is a portable Wi-Fi hotspot accessory that connects BlackBerry and Android devices to the Iridium network using an Iridium satellite phone.

iPhone, iPad and iPod Touch devices, and Windows and Mac laptops, can also use the service but will need to download a free Iridium AccessPoint Mail & Web application.

The system is expected to be available in fourth quarter of 2011 with a suggested retail price of less than US\$200.

Another service called Iridium AccessPoint Connect has also been created,

to interface Iridium phones with laptops.

This downloadable application is used with the Iridium Direct Internet software connectivity tool, and turns any Windows laptop into a global Wi-Fi hotspot when connected to an Iridium satellite phone.

Iridium AccessPoint Connect enables Wi-Fi compatible devices, such as smartphones, to synchronise and respond to e-mail or use the internet over the Iridium network. Users can download Iridium AccessPoint Connect and Direct Internet applications free of charge.

Standard airtime charges apply for use of the Iridium network on both systems.

A new satellite phone, Iridium Extreme, has also been introduced under this new strategy, and is the company's smallest and lightest handset model. The unit was designed to US Department of Defense Military Standard 810F, and as such is not necessarily aimed at the maritime market.

However, Iridium says it is a highly durable system and that it features the company's first dedicated, two-way emergency SOS button on a satellite phone, as well as an online tracking portal, with fully integrated GPS and location-based service (LBS) capabilities. As such it could prove useful in emergency situations at sea.

Iridium also notes that it is licensing the core technology behind the phone to other partners to develop their own Iridium-based global voice and data communication devices and solutions.

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# MOL to install mini-VSAT

www.minivsat.com

MOL LNG Transport Co, a subsidiary of Mitsui O.S.K. Lines, is to implement KVH's TracPhone V7 mini-VSAT satellite communications system on three of its LNG tankers, following the completion of a trial.

The service is being provided by SKY Perfect JSAT, a KVH partner, under the OceanBB brand name. SKY Perfect JSAT is working with Japan Radio Co (JRC) to install and integrate the TracPhone V7 antennas through a wholesale agreement with KVH.

The mini-VSAT system was originally installed for a trial on one of MOL LNG Transport Co's LNG tankers in May 2011, before MOL chose to adopt the system on the additional vessels.

The company says it will use the service to access weather, current, tidal, and ice information as part of its plan "to become the world leader in safe vessel operation as well as voyage optimisation."

"SKY Perfect JSAT, along with its OceanBB branded service, will be tremendously important as the Japanese market for mini-VSAT Broadband expands," said Brent Bruun, KVH's senior vice president of global sales and business development.

"We expect that many major commercial fleets such as Mitsui O.S.K. Lines will adopt the solution, and outstanding customer support from our local partner will be crucial for maintaining that growth."

"KVH's combination of affordable commercial-grade service, outstanding global support, and compact hardware provided by excellent wholesalers such as Japan Radio Co, offer the perfect solution for diverse fleets, including Mitsui O.S.K. Lines. We look forward to bringing this

best-of-breed solution to a much wider audience in Japanese waters."

News of this new contract comes at a time when KVH is also rolling out a range of enhancements to the global spread spectrum network used to provide its mini-VSAT Broadband service, which will double the maximum uplink speeds available and offer improvements in network reliability.

KVH says that network users will also benefit from the use of new adaptive return link technology, which enables the company's TracPhone V7 and V3 systems to adjust system operations automatically to suit changing conditions, including adverse weather.

The enhancements are already being rolled out across the mini-VSAT Broadband network, which comprises 10 Ku-band satellites and 14 transponders linked via hubs around the world.

"This latest global upgrade makes the KVH mini-VSAT Broadband service the fastest and most reliable VSAT service in the maritime industry, with data rates of 2 Mbps shore to ship and 1 Mbps ship to shore," explains Martin Kits van Heyningen, KVH's chief executive officer.

"Coupled with our recent completion of our global coverage and the introduction of our new TracPhone V3 with its small, 14.5-inch diameter antenna, KVH now offers maritime satellite service with the small, low cost hardware and global coverage of Inmarsat and the speed and economy of maritime VSAT."

"We feel our mini-VSAT Broadband network delivers the benefits of Inmarsat's Global Xpress service several years sooner than their projected completion date while offering service that is 4 times faster and 1/10th the cost of Inmarsat's fastest FleetBroadband service."

KVH has also announced that, with the addition of the final section of planned coverage for its mini-VSAT Broadband maritime satellite communications network, the service is now available to mariners in South American waters.

The mini-VSAT Broadband system uses ViaSat ArcLight spread spectrum technology to provide connectivity, as well as offering Voice over IP (VoIP) telephone lines.

KVH says it now delivers more than 100 terabytes of data per year, facilitating more than 1.5 million phone calls, and

maintains an average network uptime of 99.5 per cent.

Approximately 1,500 ships are installed with the service.

"This marks the completion of a powerful, affordable alternative to older, slower, and less-reliable services that were once the only option for mariners," says Mr Bruun.

"We set out to offer a dramatically new approach to maritime satcom, which is now a reality that mariners around the globe can enjoy, thanks to seamless mini-VSAT Broadband service wherever they travel."



MOL began a trial of the mini-VSAT system onboard one of its LNG tankers in May 2011 before agreeing the new contract

## Comtech and Intellian announce integration

www.intelliantech.com  
www.comtechedata.com

Comtech EF Data Corporation and Intellian Technologies have announced that they have successfully integrated the Intellian v-Series of antennas and the ROSS Open Antenna Management (ROAM) protocol, which will allow users of Intellian VSAT antenna systems to leverage the Comtech technology when roaming across multiple satellite beams.

The ROAM protocol offers a common management interface for Comtech's Roaming Oceanic Satellite Server (ROSS) and third-party Antenna Control Units (ACUs) by providing a generic set of commands, information, interfaces and status queries.

ROSS is an integrated location server that works in conjunction with Comtech's Vipersat Management System and enables remote modems to interface with stabilised, auto-tracking antennas, maintaining connectivity as vessels move through footprints of different satellites.

Vessel position data, satellite signal and

management status are monitored to determine when satellite handoff is necessary.

ROSS can support many types of ACUs, which Comtech says allows the ROAM protocol to reduce complexity by providing basic parameters required to globally roam across multiple satellite beams and provides uniformity in implementation of third-party antenna manufacturers' interfaces.

This will now include Intellian's v-Series antennas, which are built on an open platform design that works in conjunction with any SCPC or TDMA network and offers built-in GPS and auto-skew angle control, used to acquire the satellite signal as efficiently as possible.

"The interoperability of the ROAM protocol and the ROSS automation with the Intellian v-Series antennas will enable maritime operators to have maximum bandwidth efficiencies and roaming capabilities for their satellite-based communications at sea," said Daniel Enns, senior vice president strategic marketing and business development for Comtech.

## DSC alerts missing vital information - USCG

www.uscg.mil

The United States Coast Guard (USCG) has highlighted the fact that a huge number of received distress alerts do not contain position information or a registered identity, considerably hampering search and rescue efforts.

The USCG's new marine radio network Rescue 21 is currently becoming operational throughout the US, an initiative that will deliver instant distress alerts from commonly used DSC-capable VHF marine radios to rescue centres.

As Rescue 21 comes online, the Coast Guard has however pointed out that currently, in most cases, it cannot effectively respond to a DSC distress alert, as approximately 90 per cent of VHF DSC distress alerts contain no position information, and approximately 60 per cent contain no registered identity.

In such cases search and rescue efforts have to be suspended as no

communication with the distressed vessel can be established, no further information or means of contacting the vessel can be obtained from other sources, or no position information is known.

The USCG is therefore calling on users of these radios to follow a series of suggested steps necessary to provide rescuers with relevant information.

USCG says: "First obtain a Maritime Mobile Installation Identity (MMSI) and enter it into your radio. Ensure any information originally provided is updated as changes occur."

"Then interconnect your radio to a GPS receiver using a two-wire NMEA 0183 interface on all DSC-equipped marine radios and on most GPS receivers. Instructions should be provided in the radio and GPS operators manual."

USCG says that further information on this subject is provided, and will be routinely updated, at <http://goo.gl/OJt3o>.

## Videotel launches real time tutoring CBT course

www.videotel.com

Videotel Marine International has launched its online Videotel Academy MLC 2006 tutor-assisted distance learning course.

The programme, incorporating computer based training (CBT), offers real time online tutoring and follows a structured learning programme lasting 12 weeks.

Videotel says that the course can be used in the training of those responsible for implementing and ensuring compliance with the standards of the ILO Maritime Labour Convention.

The tutor for the course is David Dearsley, who has over 45 years of experience in the shipping industry. Participants of the course will be encouraged to engage in online discussions with him and fellow delegates to pool experience and knowledge.

"The ILO Maritime Labour Convention is probably the single most important international regulation affecting manning and labour affairs that has been seen for many generations," says Nigel Cleave, CEO Videotel.

"We feel that the extensive training needed should be conducted in real time by a senior course tutor with significant experience in the field. However the range of roles and responsibilities held by course participants also demands that the train-

ing be flexible and available on demand."

"Participants really benefit from the ability to communicate 'face to face' with their course tutor and receive mentoring and academic support in real time."

In related news, Videotel has also announced the launch of an update to its training programme, 'Coping with Stowaways - Edition 2', revisiting the subject and mixing new interview footage reflecting revised management and security information.

'Coping with Stowaways' identifies the dangers that master and crew can face when dealing with stowaways and offers advice on how to raise security levels to ensure the problem is avoided.

It focuses on the need for vigilance to prevent stowaways gaining access to the ship and the procedures to be adopted if stowaways do succeed in boarding.

The course is aimed at all crew on all ships, but particularly officers concerned with ensuring the security of the vessel. It is available as a DVD with supporting booklet and as an interactive CD-ROM.

"In recent years we have seen an upsurge in stowaway incidents and an increase in the levels of violence encountered by crews dealing with the problem," says Mr Cleave.

"This updated programme identifies the best practices to prevent stowaways getting on board and the procedures for dealing with them."

## Sentek Marine & Trading to install AMOS

www.spectec.net

Sentek Marine & Trading Pte Ltd has reached an agreement with SpecTec to design and develop a new electronic system to administer its asset and fleet management.

SpecTec says that Sentek Marine, a bunker tanker owning company from Singapore, is looking for an end-to-end solution to assist in the operation of its vessels.

Sentek Marine currently owns and operates approximately 15 tankers of various capacities, ranging from 200dwt

to 6,200dwt.

In particular the company is looking to keep itself in line with industry trends towards increased benchmarking of safety and efficiency performance against best practices, and will use the new technologies to upgrade its existing systems.

In that regard Sentek Marine is investing in the full suite of modules from SpecTec's AMOS2 package for eight double hulled vessels.

SpecTec says that it now has approximately 60 per cent of global shipping companies using its AMOS software system.



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# SungDong Shipbuilding to implement AVEVA

www.aveva.com

SungDong Shipbuilding & Marine Engineering Co. Ltd. has extended its contract for the use of the AVEVA Marine vessel construction software system, to drive the design of commercial vessels.

AVEVA Marine is a set of integrated applications created specifically for the processes of the engineering and design of ship and offshore structures, design management, and the generation of production information.

The new licences will be used throughout SungDong's four shipyards in Korea for the design and production of vessels which include bulk carriers, container carriers and various oil and gas platforms.

SungDong's legacy data will be preserved following the installation, with back-up provided by AVEVA's onsite engineering support team based in Busan.

"AVEVA is the natural choice for international companies engaged in shipbuilding and offshore projects such as those at SungDong," said SungDong, in a statement.

"Throughout our company's growth, the design and production support of

commercial vessels has been built around AVEVA solutions. Our increase in AVEVA Marine licenses will play a key role in the on-going success of SungDong as we expand our business and constantly improve the efficiency of our operations."

In related news, AVEVA has also announced the version 12.1 release of its AVEVA Marine solution, which, the company claims, offers enhanced reporting options, improved productivity and extended language support features.

The 12.1 release features a new user interface, which enables sharing across many modules as well as with other company's products.

Users are able to create report templates via a wizard and can insert images and charts; they can also use the standard model library to re-use designs from existing built-in complex components.

AVEVA has also added extended data exchange capabilities.

The company says there is now greater flexibility when working within an Integrated Engineering & Design environment due to the automatic creation of symbolic-type marine drawings from the

model database, as well as general 2D drafting functions.

Further new products, available in this release, include AVEVA Design Reuse, AVEVA Surface Manager and AVEVA Space Management.

"The AVEVA Marine technology makes possible the fully integrated, con-

current development of engineering and 3D design data," says Stéphane Neuvégglise, head of business management - marine systems, AVEVA.

"This allows naval architects, engineers and designers working together on a marine design project to deliver savings of up to 30 per cent compared to alternative solutions."



The SungDong shipyard will use AVEVA software to manage data for its construction operations

## Brazilian shipyard to use Autoship

www.autoship.com

Autoship Systems Corporation (ASC) reports that it has supplied its naval architecture and ship production software to Estaleiro Ilha (EISA) of Rio de Janeiro, Brazil.

EISA has chosen 'The AutoSHIP WORKS Package', used to manage projects all the way from hull lines right through to nested parts.

This package consists of Autoship (hull design), Autopower (resistance & power prediction), Autohydro (hydrostatics & stability), Autoplate (shell expansion), Autostructure (internal structural design) and Production Manager (nesting & parts management).

Training on the Autoship System will be completed at the EISA facility by Autoship staff within a two-week period, with the aim of completing implementation of the system in the shortest possible timeframe.

## DP World Southampton completes software upgrade

www.srosolutions.net

DP World Southampton, operating the second-largest container terminal in the UK, has recently completed an upgrade of its Maximo Asset Management software system, from SRO Solutions.

The port had been using V6 of Maximo to deal with its maintenance scheduling for a number of years, but wanted to upgrade to V7 to increase flexibility in how it handles its data, as David Bowers, engineering planning and quality manager at DP World, explained.

"We needed to improve our DR capability as our system was dependent on a single server," he said. "This, coupled with the additional functionality of V7, were the key drivers behind our upgrade."

One problem the company faced in completing this upgrade was the potential days of downtime that might be required in switching systems, something that

would be unacceptable for a busy port.

To overcome these problems SRO developed what it calls the SRO Dynamic Upgrader (SDU), which enables Maximo upgrades without requiring any downtime, while also allowing for testing.

SRO says that, using the SDU, there is never a need to turn off an online server and the upgrade process itself is only carried out once.

The system works by firstly installing a tool on the live server to capture all data changes. Then the Maximo database is copied to a new server, leaving the original version to carry on working while all changes to it are logged.

"When the process started it caused us no disruption at all," noted Mr Bowers. "No inconvenience to the users and importantly no downtime."

The entire process was completed within one week, with testing and training continuing for a number of weeks afterwards. In the meantime the original system con-

tinued in use as before, still capturing changes that could be transferred to the upgraded server as required.

The total transfer period for DP World was 6-8 weeks.

"Now that the production and staging systems are on identical hardware it gives us a lot of flexibility," said Mr Bowers.

"We can test, patch and carry out development work on live data without having to worry if something goes wrong. This has greatly increased our DR capability and enabled us to surpass the requirements of our internal audit."

"Normally an upgrade is a fraught affair with tight timescales and rushing to minimise downtime by working under pressure in out-of-office hours. With the SDU all this was removed."

"We were able to plan and accommodate testing and training around the normal working day on live data as we knew the original system was continuing to operate as normal."

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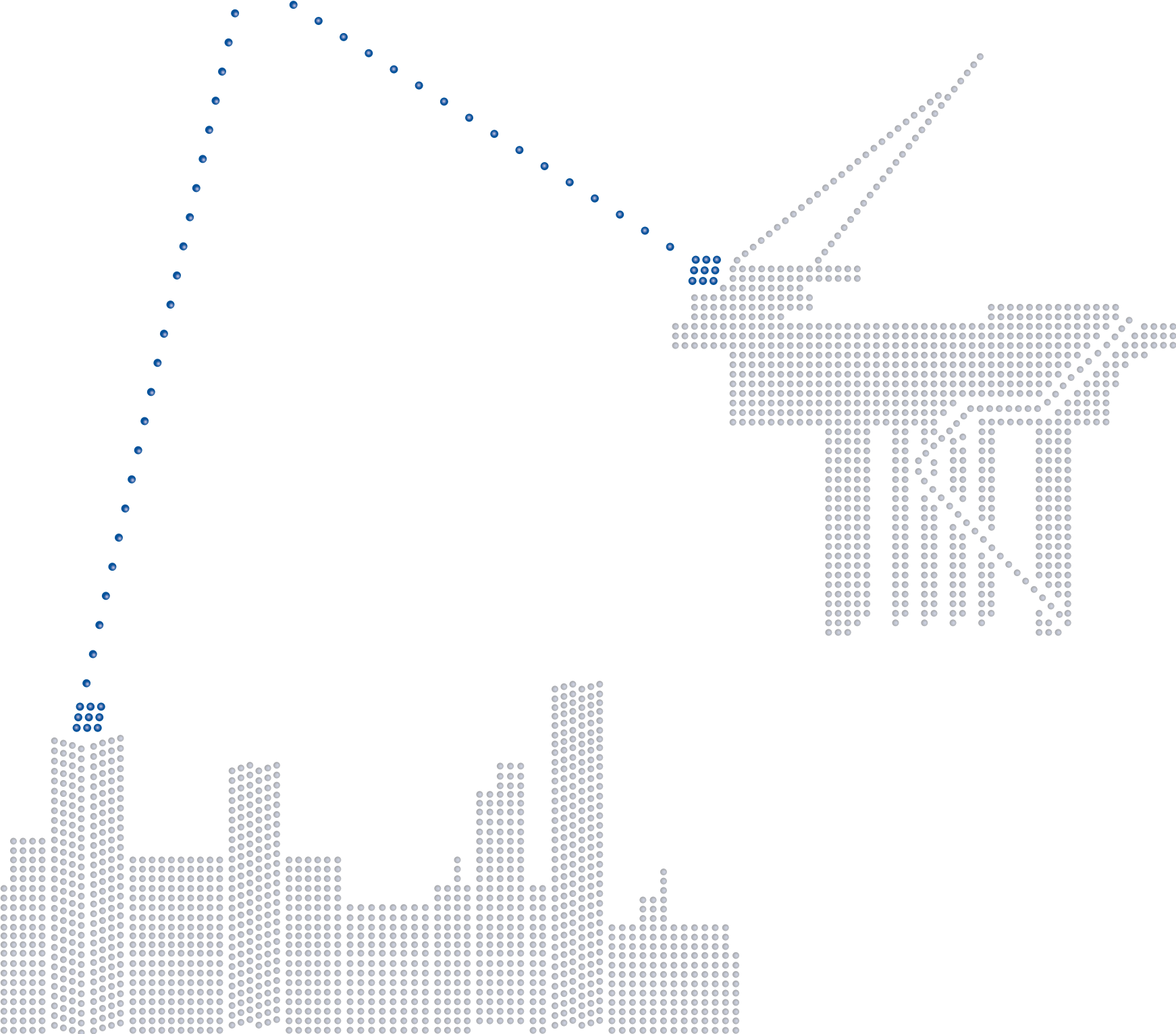
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## ABS-NS launches latest generation of software

www.abs-ns.com

ABS Nautical Systems has announced the redesign and release of its fleet management software, with the company saying that it has made "substantial improvements" to this next generation version, to be called NS5 Enterprise.

NS5 Enterprise will allow all users to access relevant data from the overall business landscape at any time.

For example, owners and senior management may wish to retrieve the latest real-time information on the status of their fleets, while shipboard and other shore-side users can reference this same data but in a way that relates to their own particular job functions.

Dashboards with customised views to examine Key Performance Indicators (KPIs) are part of the upgraded software version, including fleet-wide data for maintenance, supply chain, safety and personnel records.

ABS Nautical Systems says that this will provide users with the latest business intelligence data on the company and offer the ability to drill down into vessel specifics.

"Data that senior management normally request from managers regarding the status of their fleet is directly available to them anytime, anywhere," said Fernando Lehrer, vice president of product development at ABS Nautical Systems.

"In addition, crew can see how their job functions tie into the overall success of the company. These are significant steps to

improving communication on all fronts."

ABS Nautical Systems also notes that NS5 Enterprise was designed in partnership with a global usability research firm with the aim of focusing on improving user experience. Direct feedback from ABS Nautical Systems' clients was elicited to inform changes in numerous critical software performance elements, such as user experience, navigation, speed and reporting.

Additionally, advancements have been made to the software's system performance, in particular as it relates to searching and retrieving large quantities of data. Users will now have the ability to load data or run reports, regardless of size, in approximately one-tenth of the time it previously took.

A 'Live' version of NS5 Enterprise will also be available, using a business database hosted on a dedicated server that can be accessed by logging in with a user ID and password.

ABS Nautical Systems hopes that this option will eliminate the need for remote office licences and installations, reducing IT infrastructure costs.

"We are very pleased to announce the release of NS5 Enterprise, especially as we move forward in making our products more simplified for its users," said Karen Hughey, president and COO of ABS Nautical Systems.

"More than ever, we are offering increased value, better intelligence and stronger communication to establish NS5 Enterprise as the must-have tool for the global maritime industry."

## TSB software for Busan info management project

www.tsb.co.kr

Korea-based Total Soft Bank (TSB), a software provider for the port and maritime logistics industry, has announced that it is to be involved in the creation of BPA-NET, a major information sharing project underway at Busan Port.

The BPA-NET project is being run by Busan Port Authority (BPA) and supported by the Korean government and its related authorities, including the Ministry of Land, Transport and Maritime Affairs.

A number of other Korean companies are also joining the project as consortium members.

The project aims to introduce new technologies to help deal with increases in container cargo volume and subsequent increases in traffic along the logistics supply chain.

BPA notes that Busan Port is already the world's fifth busiest container port, shipping 14,000,000 TEUs, and as such any increase in traffic will be keenly felt.

BPA-NET will act as a 'port community system' that aims to increase the efficiency of port operation by providing a widely-accessible information management application, incorporating a real time monitoring service for ships and cargoes and an intelligent statistics service.

BPA says that it will be investing 22 billion won (approximately US\$20 million) into building BPA-NET over the next 5 years.

TSB will act as software and relevant service provider for this system, based on its PLUS (Port Logistics Unifying System) technology. PLUS is a web-based port management information system that provides on-line access to operational information to internal and external users via the internet.

It is comprised of three sub programs - VCSplus (Vessel Clearance System), MSSplus (Marine Service System), and CMSplus (Cargo Management System), which enable users to exchange port information through a single window web application.

PLUS has already been implemented at other international ports like Johor Port Berhad in Malaysia, the Port of Gothenburg in Sweden, the Port of Mombassa in Kenya and Port Sultan Qaboos in Oman.

"We are sure that TSB is the right partner to design the BPA-NET for integrating and providing logistics information for Busan Port under the ubiquitous business environment," said Hee-Soo Park, director of the Port IT TF Team at the BPA.

"Users can enjoy seamless information exchange and availability of port information anytime, anywhere."

"(The system will) provide an advanced information exchange service coupled with existing fast and accurate customer service, as well as increasing vessel callings and attracting more cargo traffic."

## Marine Software installed by Brooklyn Shipping

www.marinsoftware.co.uk

UK based Marine Software has announced the recent supply of its MPM - Marine Planned Maintenance, MSK - Marine Storekeeper and the MPS - Marine Purchasing system to Brooklyn Shipping.

The software will be installed on the newbuild vessel Loch Erisort, as well as in Brooklyn's Aberdeen Office.

Built in the Tebma Shipyard, India, this

Wartsila VS 470 MPOVMk III design vessel is initially intended for Far East operations working within the ROV and renewable markets, but will primarily operate worldwide after that.

Brooklyn Shipping also took delivery of the MPJ - Marine Project Manager software package under the deal, to prepare refit specifications, manage tenders and control all costs during future refit periods.



Brooklyn Shipping's vessel Loch Erisort will implement the new software package



Juha Heikinheimo, new president at Napa Group

Juha Heikinheimo has been appointed to the position of president of **Napa Group**, taking over from Matti Salo, who served as president for eleven years. Mr

Salo will continue as president of the **Onboard-Napa Ltd** subsidiary. Mr Heikinheimo previously served as president of STX Finland, and also as president of the Santasalo Group.

**ClassNK** has issued its first approval for a maritime training programme, to an ECDIS course offered by **NYK Shipmanagement**. This approval, which certifies that the course fulfils IMO standards, follows ClassNK's entry into the training programme certification field as part of a broader expansion of the classification society's activities.

**Regs4ships Limited**, a digital maritime organisation based in Southampton, UK, has celebrated its ten-year anniversary. Since three of the directors founded the company in one of their homes, Regs4ships has grown to employ 26 members of staff.

www.napa.fi  
www.classnk.or.jp  
www.reg4ships.com

## Nordic signs to TradeNet

www.shipserv.com

German shipping company Nordic Hamburg Shipmanagement has signed up to ShipServ's TradeNet e-commerce platform.

Nordic Hamburg Shipmanagement was founded in 2008 and today operates a fleet of seven vessels, which will expand to 18 by the end of 2012. All 18 will eventually be connected to TradeNet for sourcing ship supplies.

ShipServ will integrate with the fleet's onboard BASS maintenance and purchasing software to link to Nordic Hamburg's suppliers.

This set-up was agreed as the result of close co-operation between BASS Germany, ShipServ and Nordic Hamburg's purchasing department.

"The Nordic Hamburg Group has made

its reputation by being innovative in its projects and operations and we also understand that shipping depends on relationships," said Henrik Jensen, managing director of Nordic Hamburg Shipmanagement.

"Implementing ShipServ on our vessels means we can trade faster and more efficiently with our suppliers and when necessary work with new partners to achieve the best prices and service."

ShipServ says that Germany is now one of the fastest-growing markets for its service, which is already in use by 11 shipowners and operators, including AJ Shipmanagement, Alpha Shipmanagement, Bernhard Schulte Shipmanagement (Deutschland), Carsten Rehder, ER Schifffahrt, Reederei F Laeisz, Shipcare Management and trans Mar-Supply.

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# Moving to a modern software system

**Dampskibsselskabet NORDEN is preparing to migrate its software infrastructure, moving from a set-up that was rapidly becoming obsolete to a modern maritime platform. Sture Freudenreich, Dampskibsselskabet NORDEN, told *Digital Ship* about this process**

**D**anish shipping company Dampskibsselskabet NORDEN A/S has recently agreed a deal to implement Veson Nautical's Integrated Maritime Operations System (IMOS) to manage its fleet of 210 dry cargo and product tanker vessels.

IMOS includes a set of ten core modules for fleet and operations management, with NORDEN deciding to install the Chartering, Operations, Financials, Demurrage, Trading, Pooling, Cargo Matching, and Bunker Planning applications.

IMOS will also be used to assist in management of operations of Norient Product Pool ApS, owned 50/50 by founding partners NORDEN and Interiorient Navigation Company of Cyprus.

Norient Product Pool manages approximately 75 product tankers from its head office in Denmark and its offices in Singapore, USA and Cyprus.

The new contract was agreed following a trial of the system by NORDEN, part of a 'gap analysis' phase which examined the company's business processes that were not totally covered by the standard IMOS system.



*"We are expanding our fleet, and our existing software was not flexible enough"*  
– Sture Freudenreich, DS NORDEN A/S

The company was given access to a test system, which Veson provided as a 'blank' set-up that could be used to mimic NORDEN's own operations.

Users from each of the shipping company's departments were recruited to take part, and workshops were set up. Then a number of the company's voyages and other business processes were simulated to test the software.

This process continued for three of four weeks, and this helped NORDEN to identify the areas where it needed some specific customisation. Veson Nautical is now in the process of finalising those tweaks to the system, and the companies to begin the roll-out of the new applications at the beginning of November.

One specific customisation involves key functionalities from the company's own operations system MOEPS (Master's Operations Environmental Performance System), which was developed by Norient Product Pool and has resulted in considerable fuel savings due to better planning

of voyages.

This needed to be ported into the new IMOS system, and a version of MOEPS has recently been introduced in NORDEN's Dry Cargo department.

NORDEN's decision to move to this new set-up was borne out of the realisation that it had reached a stage in its development where the applications it had been using for a number of years were simply no longer fit for purpose, as Sture Freudenreich, director - head of IT at Dampskibsselskabet NORDEN A/S explains.

"We have a strategy of business growth that will, over the next years, mean that we are expanding our fleet of owned vessels," he told us. "For that, we could see that our existing software system was not flexible enough and not the best tool available to support the future business strategy."

"It is an older system, which we've had for about seven years, but it's about ten years old. Mostly it was performance of the system that was the biggest issue. In recent years we have grown the business and the organisation and we found that the system became more and more 'heavy' to work with."

"We also wanted to challenge ourselves and see if the processes we had were good enough, or whether there were systems out there that could give us better workflows, and cross-departmental workflows."

## Software functions

Having decided to move forward with an overhaul of its business processes, as well as the applications used to support them, NORDEN proceeded to evaluate a number of different software options. The company finally settled on IMOS as the best fit for its organisation, and not only for technical reasons, as Mr Freudenreich notes.

"One of our key criteria was that we wanted a new and modern platform, with the latest technical specifications, but what was also important was the kind of users they already had - what kind of customers does the company have already using this software?" he said.

"Veson had quite a big portfolio but also many were new, they got a lot of new customers over the past few years. The fact that some of these were in Denmark was good too, as we were able to talk to them about how they used the system. They were all quite positive."

"We also went to the IMOS user conference before we signed the contract, again to talk to a bigger selection of international customers. That was of great benefit to us."

While NORDEN is looking at IMOS as a complete software package to integrate various aspects of its operations, there are a couple of modules which Mr Freudenreich believes may be particularly useful in adding new capabilities that were previously unavailable.

"We could see how the whole suite of modules could create some benefits, but to mention one module that was new to us I

would say the Trading Module was something that we could use to create an even better overview of risk and exposure. We didn't have that in our old system," he said.

"There's another function called Cargo Matching, which is something we didn't have before, that will be useful. So there were a few modules which are new for us and we think will make it easier for us to operate."

"We weren't looking for these particular functions at the start, we just wanted to introduce a modern software platform. We had these things semi-covered before by our Business Intelligence systems, but it's more useful for the users if that information is directly there inside the application, instead of in a separate product."

## Implementation

NORDEN has outlined an ambitious implementation schedule for the new system, which Mr Freudenreich has described as a 'big bang' rather than a slow, phased process.

"Our computer systems are centralised in Denmark, so all our international offices will connect via Citrix to our central systems," said Mr Freudenreich.

"The vessels will not be connected in the same way, they won't have the same interface, but they will use what Veson calls Veslink and our own developed MOEPS client to report data to our system on shore. On the vessels where we have an internet connection it will be a direct push of data, and on the vessels without internet it will be sent by e-mail."

"It will not be real-time data transfer; it will be done manually with people typing information into a form and then sending it by e-mail or via the application installed on the vessel. That would be done a few times a day."

This implementation process will involve an extensive amount of integration work, as NORDEN moves from its previous software system to IMOS, while also putting processes in place to allow surviving external applications to share data with the new package.

"The old system we are replacing is based on the Microsoft Navision platform, with the shipping applications built on top of that," said Mr Freudenreich. "That will be separated in the future, the IMOS product is only to be used for shipping and then we will build up a totally new Navision platform for our financial and accounting departments. These will then have to be integrated."

"We have chosen to use Microsoft CRM to be our data management base, for clients and customers. These will all have to integrate with IMOS and share data, and they will also have to connect to DA Desk and Q88 to pull data."

"We will do quite a lot of it ourselves, especially in terms of the Microsoft CRM and Navision where we will use a standard software called 'Scribe' to do the data integration. The IT department consists of eight people now with different profiles. For the

Navision part we have brought in a Navision specialist that will work on this."

Managing the transition between the different versions of software systems will create its own difficulties, with Mr Freudenreich noting that the company will run this slightly differently of different vessels, depending on the type of voyages those ships undertake.

"We will probably have some overlap on the vessels, time where we will have to run in parallel on two systems while we introduce the new software," he told us. "We can't make a clean 'cut' and just move straight to the new system, we have an action plan in place to manage this."

"We will have a few of our longer voyages where they will have to run on two systems, and give them time to wind down with one system as they start up with the new one. This is mostly to make sure that we have all of the financial data in place in the new system as well."

Aside from building these integration modules one of the biggest challenges that NORDEN has identified in managing a successful implementation is making sure that the company employees, at sea and ashore, are properly trained to take advantage of the new capabilities.

"You need to have that training as close as possible to the 'go-live' date as you can, though that can be difficult when you have 275 people, worldwide, that need to be trained. We are looking now at how we can facilitate that," said Mr Freudenreich.

"We will do training in all of the worldwide locations separately. Veson may be involved in that, but we will manage most of it ourselves. We will have a set schedule of dates for all of these things in the implementation."

## Future expansion

Though still left with a lot of work to do in successfully introducing this new software system across the company, NORDEN is already looking at the next phase of development of its infrastructure and expanding the reach of its systems to mobile devices.

"We are using iPhones today, and with the iPhone we are only able to push private e-mails for each user," said Mr Freudenreich.

"We want to also be able to give them access to our group business mail folders as well. That's not something that you can get out of the box so we will build it ourselves, to improve communications while people are out of the office."

"We will start with the communication on the mobile devices, and after that we will have to see if we can give them better access to data for IMOS and whatever other business systems we have, via the mobile device. That is something we will focus on in the future."

As it continues with these developments NORDEN will certainly be moving ever closer to its original goal - having a state-of-the-art IT infrastructure supporting a modern and efficient shipping operation. **DS**

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# Value for money from CBT – Allseas Marine

**Greek shipping company Allseas Marine introduced computer based training across its fleet in 2008, and the company is now conducting about 30 per cent of all its training using the technology. George Skrimizeas, Allseas Marine, told *Digital Ship* about how the company is getting value from its CBT investment**

Training is undoubtedly one of the biggest issues in the maritime industry at present, with availability of competent crew an additional headache for shipping companies that are having to deal with a global economy facing a level of turmoil unprecedented in decades.

Keeping the ships employed is obviously the first priority – but the vessels won't be running for long without a competent crew that can deliver the ship and its cargo safely and efficiently to its destination.

The growing demand for crews in recent years has created a kind of Catch-22 situation when it comes to training – more training is required to provide necessary onboard competence, but the time available is short as companies aim to get seafarers back out to sea and operating their ships as soon as possible.

It is in this kind of environment that use of Computer Based Training (CBT) in the maritime industry has seen extensive growth in recent years. This technology can be used to create greater flexibility in training by allowing study to be done in a variety of different locations, and even on the vessel itself.

One of the companies that has taken advantage of these new services is Greek operator Allseas Marine, which is currently managing 11 bulk carriers, seven containerships, and pursuing a newbuilding programme including four bulk carriers and two containerships that will be delivered in 2012 and 2013 respectively.

Allseas introduced the Videotel On Demand (VOD) computer based training system across its fleet in 2008, to assist in the development of its seafarer pool consisting of more than 600 Filipino and more than 60 Ukrainian crew.

The VOD system offers videos and CBT interactive programs, with training packages specified for operational areas. Results are recorded on the ship, and can be exported to the company's own management systems as required.

For Allseas, implementing this technology was part of an overall company strategy focusing on maximising the contribution that its employees, both at sea and on shore, can make to its operations.

In this regard, CBT is something that the company believes will create a significant return on investment, as George Skrimizeas, general manager, Allseas Marine, explains.

"Traditionally we have been a company that significantly values the contribution of the human factor, both in company performance and in the implementation of our business plan," he told us.

"We strongly believe that without the appropriate human resources a company cannot be successful. Therefore our target has been: a) to recruit skilled and qualified seafarers and shore staff and b) to continuously upgrade their skills through

an effective training programme."

As Mr Skrimizeas notes, while the company was keen to introduce new ways of training, it was also conscious of the costs that were involved – and wanted to ensure it got value for money. As such, a thorough review of the available technologies was conducted.

"In a rapidly changing and highly demanding environment, as the shipping industry is, training is an ongoing process and for this purpose you need tools that can make the difference," he said.

"It is commonly accepted that a company can invest millions of dollars in training programs that end up ineffective. That is why thorough market research for the appropriate tools, and management commitment for the correct implementation of the programs, are the critical parameters."



Allseas Marine has implemented CBT across its entire fleet of vessels

"After this market research we concluded that using Videotel's VOD definitely adds value, and over the years we have observed that it is not only us but also the seafarers who have realised it."

## CBT usage

All of Allseas Marine's vessels are running the VOD system onboard, with the system having also been introduced at shore-based facilities to widen its availability.

"We have equipped the office and run training programs in Manila, where we have set up our own office for recruiting crew and we have a fully operational training department," said Mr Skrimizeas.

"Our headquarters in Athens has the system, but mainly for use by the shore staff who visit the vessels."

"In our company we use CBT on board the vessels and ashore for our shore staff, but also for our crew who are on vacation. Of course, the on board training is most useful because the seaman can immediately apply what he learns."

The training done at-sea uses materials already installed on the ship rather than online systems, though the results of the training completed on the vessel are trans-

mitted back to the shore offices.

"We are using the Videotel FTA (fleet training administrator), this function is quite useful because it gathers the results of the on board training and provides us with the relevant reports, offering, in this respect, a reliable training needs analysis," said Mr Skrimizeas.

"An FBB (FleetBroadband) is sufficient for the satellite communication element of this. Definitely, for all organisations cost is an element that needs consideration but we must not forget that training expenditure is not a cost, it is an investment."

Mr Skrimizeas estimates that approximately 30 per cent of the total training each seafarer receives in his company is done by CBT, in comparison with more traditional land-based methods, and the company has been pleased with the way that the crews

"In this respect they understand that the company invests in them, which for them, quite correctly, the interpretation is that the company cares for them," said Mr Skrimizeas.

"This created better connections and incentivised further our people, which in fact was the most unexpected benefit."

## Success factors

Having had three years' experience with CBT at Allseas, Mr Skrimizeas says that the technology is something that he would certainly advise other companies to consider when looking to improve their training capabilities.

"Definitely we feel that it has added value, that is why we continue using it. Therefore I would strongly recommend it," he told us.

"The first step, and the most important for me as I mentioned before, is for the company to treat the training process as an investment and not as an extra cost. Then you must work closely with all the parties involved – Videotel, seafarers, training department, shore staff."

"If a company succeeds in getting its staff to commit themselves in this project then it will be 100 per cent effective."

However, Mr Skrimizeas cautions against relying on the CBT to solve all your training problems, and points out that it should form part of a more comprehensive strategy that is continuously assessed and upgraded.

"CBT is a training method, a useful tool that will offer results not as a stand-alone solution but as a part of a well designed and properly implemented training plan," he explained.

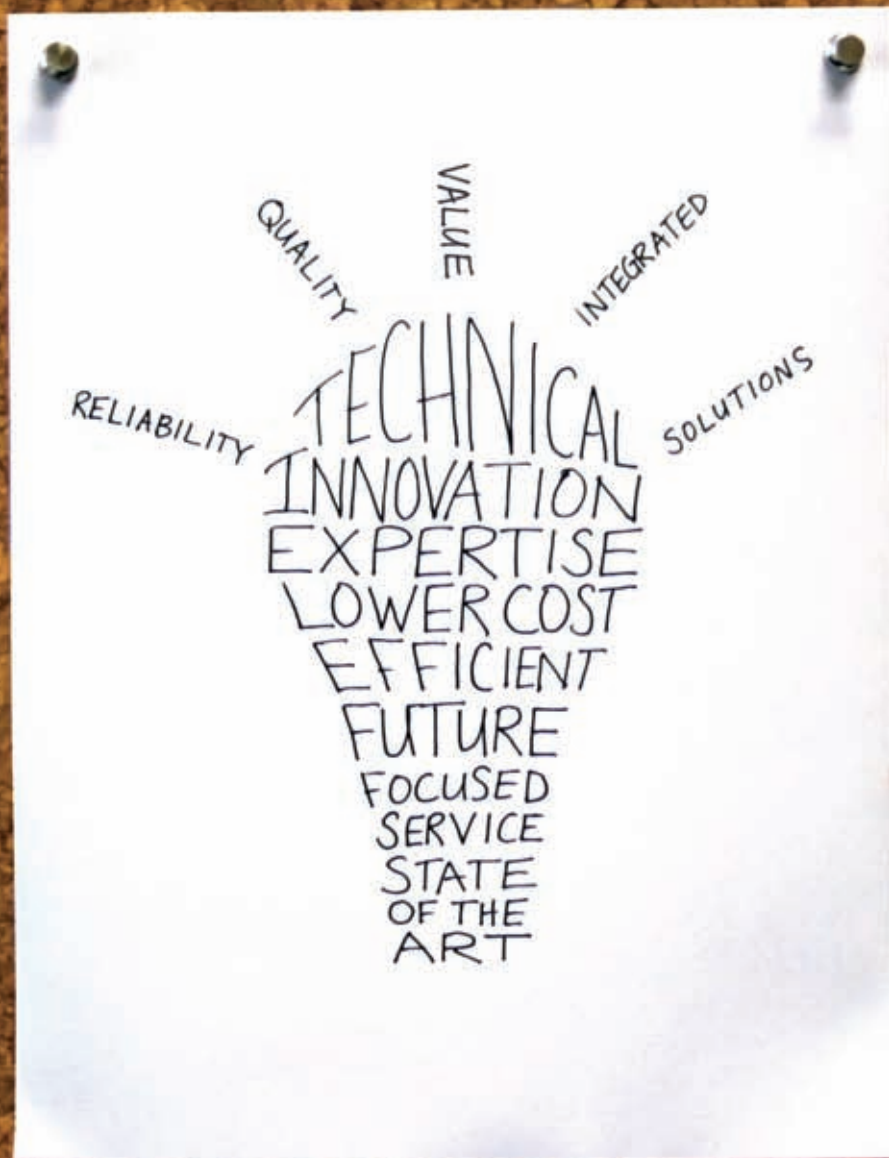
"Someone must administer the entire plan, assess the results, perform training needs analysis based on the results and, when needed, redesign or enhance the plan. Moreover there must be a very specific list of topics in place that each person receives, and this list must be dynamic – otherwise interest will be lost."

This is something that the company is currently applying to its ECDIS training, ahead of the phased implementation of IMO's mandatory requirement beginning in 2012, where CBT will play a significant role.

"ECDIS is the future and if an organisation wants to be effective in this area when it will be 100 per cent compulsory, then it has to start preparing its human resources from now," said Mr Skrimizeas.

"We have included the ECDIS in our CBT programs, enabling our seafarers to become acquainted with this function."

In its ECDIS training, and across the board in its seafarer development programmes, Allseas will continue to leverage the latest CBT technology to help its crews become the best they can be – and to get the maximum value from its training investments.



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## Alewijnse installs 1,000th inland AIS

www.alewijnse.nl

Alewijnse Marine Systems has completed its 1,000th installation of AIS (automatic identification system), on board an inland vessel based in the Netherlands.

Alewijnse introduced its Explorer AIS system at the start of 2011, the first in a new range of inland AIS products, and says that it is the first Dutch company to offer a specialised inland AIS system and is the largest single supplier in the region.

The units are currently being sold at a 100 per cent discount due to a government grant of equal value that covers all European commercial vessels operating

on Dutch inland waters until January 2013.

Alewijnse is operating a system of staggered distribution to inland shipping operators from its offices in Rotterdam, Nijmegen and Drachten.

The company also notes that it is currently working with the Netherlands National Council for Inland Shipping (Rijkswaterstaat) on its 'Corridor 895' AIS test project.

This programme is evaluating the effectiveness of AIS on 895 inland vessels operating on the Rhine corridor and between the ports of Antwerp, Rotterdam and Nijmegen.



The milestone installation was onboard the Dutch vessel Santana

## MARIS signs with Hong Kong Marine Police

www.maris.no

MARIS has announced the signing of its first contract with Hong Kong Marine Police (HKMPD). After an official tendering process, the company has been selected to supply 12 ECDIS Systems on board 12 existing patrol boats operating in waters around Hong Kong.

Under the agreement, MARIS will provide its latest ECDIS Systems based on its 10th Generation Smartline MK-10 ECDIS 900, including the Intel Core-2 DUO processor and solid state drives. The systems will replace a combination of existing ECDIS and paper charts currently used by the HKMPD.

The MK-10 ECDIS 900 is compliant with the latest IEC 61174:2008 standard and offers online ordering of electronic charts, and integral computer-based training for crew.

It also features passage planning, radar overlay, AIS, a Duplex link between AIS and ECDIS, total tide intelligence, weather forecast display, Navtex interface, access to the Lloyds Fairplay data base, and optional weather routing and conning displays.

MARIS' agent, Hong Kong based Elekon Electrical Company, will undertake the installation work, which is due to be completed before the end of 2011.

MARIS sees this as major strategic advance in Asia, following the company's securing of a tender to supply 32 ECDIS

Systems to Indian Coast Guard vessels earlier in 2011.

"This latest contract is a particularly significant endorsement of MARIS ECDIS technology, given that the initial tender was limited to Electronic Chart Services only," says Bhupesh Gandhi, director Asia Pacific, MARIS Asia.

In other news, Maris has also announced that it has entered into a co-operation agreement with Vestfold University College, which is to offer MARIS ECDIS900 product specific training.

Under the deal, which is designed to establish closer co-operation on research and development, the college will offer product-specific training for the MARIS ECDIS system, covering electronic charts and updates.

Vestfold University College has substantial research and development capabilities, with approximately 50 persons involved in PhD projects.

"This is a strategic and valued agreement. It shows the board's commitment to support the government's 'steady course' initiative, and specifically its exhortation that Norway should be a world-leading maritime nation," said Duy-Tho Do, dean of the college's Faculty of Technology and Maritime Sciences.

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**ABS Nautical Systems**

www.abs-ns.com

# AWT incorporates satellite AIS data

www.awtworldwide.com

Applied Weather Technology (AWT) has launched a global Automatic Identification System (AIS) service, AWT Global AIS, which will incorporate satellite-based data to monitor vessels beyond coastal regions.

Shipboard AIS transponders have a horizontal range that is typically only about 35 nautical miles (NM). However, the signal has a vertical range over 200 NM, and recent advances have led to the inclusion of tracking units on polar orbiting satellites that can pick up these signals.

AWT will integrate this data from its Global AIS service with the AWT Tracking Service, inserting the vessel's track into the AWT Route Optimization System.

"With AWT Global AIS data, our customers can now get a more complete picture of each voyage in a timely and cost-effective manner," says Richard Brown, vice president of product management at AWT.

"Combining AIS data with other AWT services lets fleet managers see when a vessel is approaching high-risk areas such as pirate attack regions, as well as detect when a vessel stops before the captain has

had a chance to report it."

Combining this information with wind and wave data, vessel-specific speed down algorithms and its Climatological Ship Resistance (CSR) system, AWT can predict when the vessel will arrive at port.

The vessel's ETA is continuously updated throughout the voyage as new weather or position data is received. These vessels are also included in a Daily Fleet Status Report that is sent via e-mail to update the shipping company on vessel progress.

The new satellite AIS system can also be used with AWT's GlobalView fleet management system, which combines AIS reports with AWT's voyage tracking service and a viewing system which fleet managers can use to monitor the safety, ETA and performance of their vessels.

Africa Express Lines has been among the early users of the service, and has been pleased with the additional operational data it has been supplied with, according to Anthony Birch, marine assistant, operations.

"AWT's Global AIS service greatly benefits us," he said.

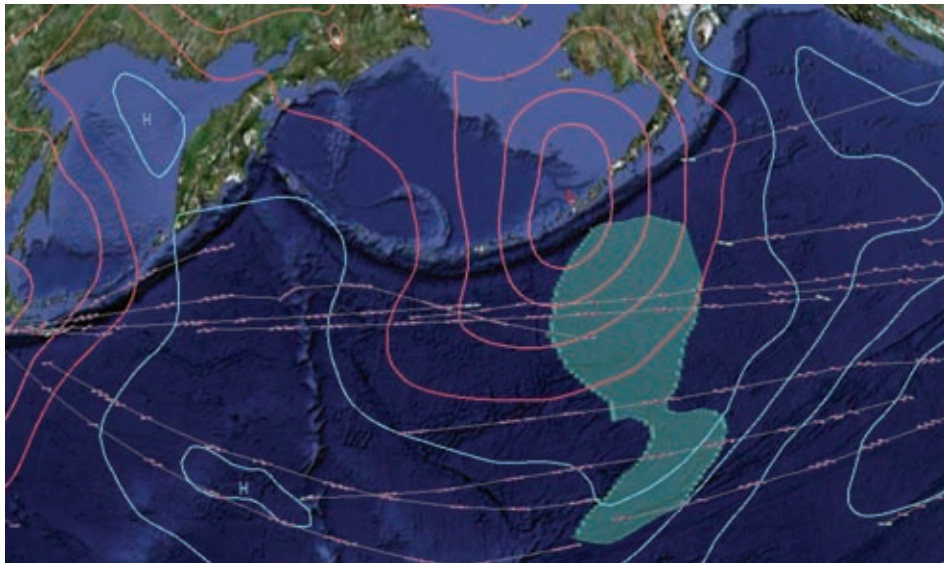
"When combined with GlobalView, not only does it give us positioning of the entire fleet on-screen, but you get the added bonus of overlaying the weather, clouds, visibility, waves, current speeds, etc, and this list goes on. It is an invaluable source of information in a neat little package."

Björn Röhlich has been appointed as new managing director of Hamburg-based **MSG Marine Serve GmbH**. Mr Röhlich was previously training manager with **Transas**, and also served as an officer with the German Navy.

**Kongsberg Maritime Mexico** has become fully operational, based at a new facility in the city of Veracruz. The new service hub will offer service and support to DP vessels and merchant ships with Kongsberg Maritime navigation, automation and control systems on board.

Another new **Kongsberg Maritime** office in the port of Piraeus, Greece is now also operational. Kongsberg Maritime Hellas has been established as a customer support and sales office to meet the procurement and service requirements of Greek ship-owners and vessels sailing with Kongsberg Maritime systems in southern Europe.


**Veripos** has extended its operations in China with the opening of a new office in Tianjin in association with **Tianjin YaXi Offshore Oilfield Technical Services Co Ltd**. The Tianjin office is staffed by Wang Yong Chun as China country manager and Hing Tong Khoon as technical manager.



Satellite AIS data will be integrated into AWT's voyage optimisation tools

www.marineserve.de  
 www.transas.com  
 www.kn.kongsberg.com  
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 From: IT Manager - Shipping Company  
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- Minimal communication cost to the company

**References:**

- Chosen by many large fleet owners and managers
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- Crew members manage the system on their own. No overheads

My recommendation is Dualog Connection Suite because it provides our crew members with a private communications tool without any added cost to the company. This is good crew welfare.

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## BMT's SafePort completes initial trial

www.bmt.org

BMT Group, has announced that the SafePort research project has completed initial sea trials of a prototype vessel management system at Dublin port.

SafePort offers an advanced vessel traffic management system designed for constrained ports, or waterways with high traffic densities, with an integrated portable pilot unit.

BMT says the project, which is being supervised by the European Global Navigation Satellite Signal (GNSS) Agency, delivers accurate, secure and reliable navigation and positioning information which in turn enables safer and more efficient navigation and berthing.

Leading a consortium of nine organisations from across Europe, BMT was responsible for the development of the path planning capability which it hopes will help to reduce time and fuel wastage and take the first tentative steps towards the autonomous ship.

BMT states that AIS position reports can be misleading for various reasons, such as systematic errors, installation issues, time delays, or atmospheric conditions affecting the GNSS signal.

Vessels entering and leaving the port are therefore monitored using a portable pilot unit which uses the European Geostationary Navigation Overlay Service (EGNOS), both to provide highly accurate position reports and also to indicate the positional uncertainty.

The project also uses knowledge of the satellite signals as an authentication system to provide assurance against attacks by hackers who may attempt to confuse shipping by faking GPS signals.

"SafePort reduces risk by helping increase the cooperation between Pilots, Vessels and the Vessel Traffic Management Information system (VTS/VTMIS). Vessels participating in the system share their planned paths and schedules with the A-VTMIS system or request a path to be planned for them," says Ben Hodgson, senior research scientist at BMT Group.



The trial took place in Dublin Port

tist at BMT Group.

"These are continually validated to ensure that they comply with regulations, do not conflict with other vessels, are low risk and are achievable with current manoeuvring constraints and environmental conditions."

"An enhanced portable pilot unit assists pilots in following these agreed paths and time slots and provides an indication of the risks associated with manoeuvres and other vessels such as highlighting that an uncontrolled vessel will cross a section of the path ahead."

## ADVETO ECDIS for HSCs

www.adveto.com

ADVETO of Sweden has agreed an order to supply ECDIS systems to Norwegian company Tide Sjø.

The deal will see six ADVETO ECDIS-4000 units supplied to Tide Sjø's three newbuild High Speed Craft (HSC) passenger catamarans through ADVETO's distributor Westronic in Bergen.

Each newbuild HSC will be equipped with dual-ECDIS, to allow them to sail paperless.

The new order represents part of Tide Sjø's ongoing upgrade programme which aims to make sure that all of its HSC are compliant with IMO resolutions requiring such vessels to be fitted with an ECDIS.

"Westronic started to work with ADVETO's ECDIS four years ago. I must conclude that, according to my opinion, ADVETO has the best ECDIS on the market for the HSC vessels," said Arild Mathiesen,

sales and project engineer at Westronic.

"ECDIS-4000 from ADVETO has features like multi routes, advanced predictors, alternative night presentation and download of Primar charts and chart updates over the internet directly into the ECDIS. This makes ADVETO ECDIS an ideal system for HSC operation."

In other news, ADVETO has also recently announced the signing of an agreement with Ghana Port Authority to provide its Compact Vessel Traffic System (CVTS) software.

Under the contract, ADVETO will provide six CVTS software licenses as part of a complete AIS and surveillance system.

The delivery will be carried out by True Heading, Stockholm, and includes True Heading AIS hardware.

"We are proud that we have been chosen to deliver our CVTS technology to this high status delivery," said Kent Sylvén, managing director of ADVETO.

## Tornado radar hits 15,000

www.jrc.co.jp

Japan Radio Co (JRC) has delivered its 15,000th Tornado radar, from the Mitaka factory in Tokyo, Japan.

Developed by JRC's engineers, the Tornado radar processor is found in the company's JMA-5200 through to the JMA-9100 series of radars.

Since the first JMA-5300 Tornado radar was shipped in 2004, JRC says it has delivered an average of six units per day to reach this 15,000 milestone.

The specific capabilities of the processor allow the radars to perform the complex tasks associated with JRC's other in-house developed technologies, Constaview and Target Enhancement Function (TEF).

Constaview allows full processing of data within milliseconds, to facilitate continuous radar image rotation. TEF allows for target enhancement relative to the target size, resulting in a proportional enhancement where the relative enhancement of smaller targets is greater than applied to larger targets.

Tamiho Shinya, executive officer of the JRC marine division commented: "We are thrilled to have delivered so many radars around the world and even more pleased to see that so many of our customers are able to take full advantage of our systems."

## NOAA speeds up chart production with new processing system

www.nauticalcharts.noaa.gov

A new navigational chart processing system developed by the US National Oceanic and Atmospheric Administration (NOAA) has moved into initial limited production, aiming to slim down the current map production process while improving performance.

"NOAA regularly updates over 1,000 nautical charts, adding data and making corrections that are critical to a wide use of applications," said Capt John Lowell, director of the Office of Coast Survey.

"To produce more navigation products, faster, we have developed a single source production system that produces all NOAA chart products from one central database instead of the two production lines used since charting technologies first started changing in the mid-1990s."

The new system aims to speed up the distribution of chart updates to users, create new opportunities for private industry development of customised products, and improve data exchange capabilities for multiple maritime uses.

For instance, NOAA says that the system will be able to integrate with other information sources, for ocean planning and other coastal uses.

In particular, with the efficiencies it expects to leverage from the new system, NOAA Coast Survey expects to be able to produce more navigation products, with flexible access to more data, without a corresponding increase in budget or personnel.

NOAA's Office of Coast Survey began the production improvement project in October 2004, in collaboration with US-based ManTech International Corporation, and ESRI, a provider of GIS technology based in California, with the aim of developing an integrated production system for NOAA chart production.

"Technological advancements are spurring a revolution in nautical charts, and navigators need flexibility and increased access to data that mariners from the last century could only dream about," Capt Lowell said.

"The system we developed with ManTech and ESRI provides the platform for a wide range of new applications for commercial mariners, recreational boaters and, indeed, for coastal planners along the nation's 95,000 miles of coastline."

Despite the new system being introduced now, NOAA notes that the transition of data covering all US waters will take several years, progressing in sets of charts as geographically located in US Coast Guard Districts.

As the data is transitioned to the new system, chart users will see more congruity between paper charts that are now produced on one system, and electronic charts produced on another. Under the new system, cartographers will enter the same data into a single system and the changes will be sped along to all associated products.



ECDIS will be supplied to three newbuild high speed craft under the deal



[jrceurope.com/ECDIS](http://jrceurope.com/ECDIS)



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## 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...



## Galileo satellite prepares for launch

[www.esa.int/esaNA/galileo.html](http://www.esa.int/esaNA/galileo.html)

The first Galileo navigation satellite has arrived at a spaceport in French Guiana, ready to begin preparations for launch on 20th October.

Packed within a protective, air-conditioned container, the satellite landed at Cayenne Rochambeau Airport, having departed from Thales Alenia Space Italy's Rome facility, where it was built. It was then loaded on a lorry for transport to the Guiana Space Centre, where it was moved into the preparation facility.

The satellite is due to be launched aboard a Soyuz ST-B vehicle on 20th October, together with a second Galileo satellite that is also scheduled to arrive in French Guiana shortly.

This will be the first launch of Russia's Soyuz rocket from French Guiana, and will take place from a new facility 13km northwest of the Ariane 5 launch site.

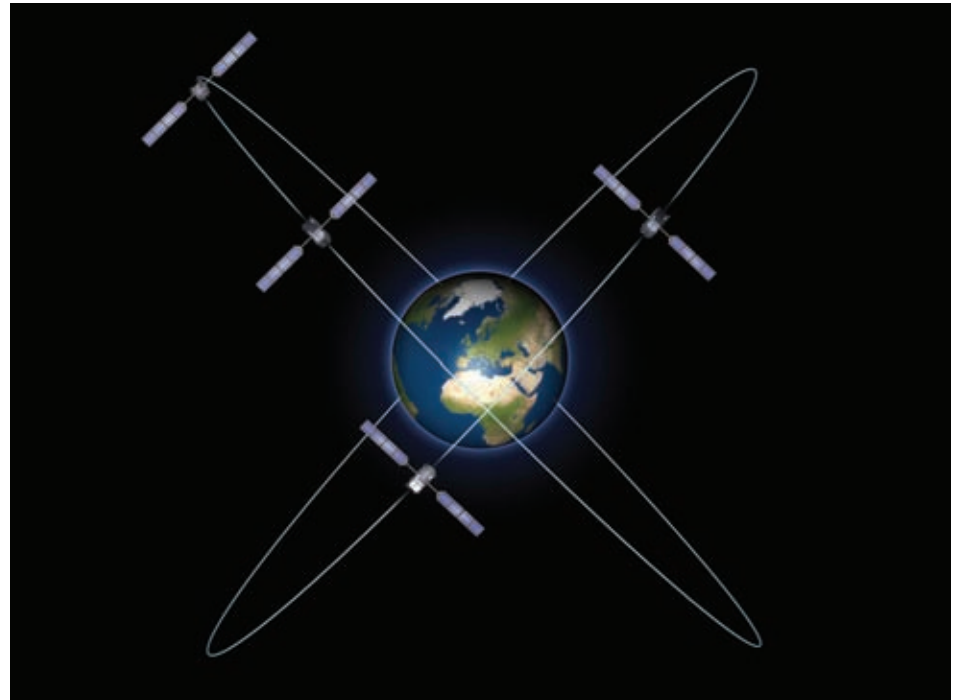
Next year, a second pair of satellites will join the two mentioned above in orbits at 23,222km altitude, proving the design of the Galileo system in advance of the other 26 satellites scheduled to join them.

October's launch will mark the first Soyuz launch from a spaceport outside of Baikonur in Kazakhstan or Plesetsk in Russia.

French Guiana is closer to the equator, so each launch will benefit from the Earth's spin, increasing the maximum payload into geostationary transfer orbit from 1.7 tonnes to 3 tonnes.

These first four Galileo satellites, built by a consortium led by EADS Astrium (which recently acquired Vizada), will form the operational nucleus of the full Galileo satnav constellation.

They combine a sophisticated atomic clock - accurate to one second in three million years - with a transmitter to broadcast navigation data worldwide.



Four in-orbit Galileo satellites will be used for the design proving phase of the project

## Delamar gets technology systems from Alewijnse

[www.alewijnse.nl](http://www.alewijnse.nl)

Dutch company Alewijnse reports that it has supplied a complete set of navigation, communications and electrical systems for the multi-purpose general cargo vessel M/V Delamar.

Built and delivered by Marine Projects

Ltd Shipyard in Poland in cooperation with the operator Briese Schifffahrt GmbH & Co KG, the 4,059 dwt vessel was delivered to the new Swedish owner AtoB@C Shipping AB in July.

The scope of the contract included the entire bridge system, including all navigation and communications equipment. The

equipment from Raytheon Anschutz comprises two navigation radars, a gyrocompass, and an autopilot.

Alewijnse also installed a communications package comprised of a FleetBroadband, a Sailor GMDSS A3, an Alewijnse AIS system and all accompanying sensors.

All the engineering, installation and commissioning was undertaken by Alewijnse technicians at the yard in Gdansk, Poland.

In addition, the company delivered the engineering as well as the commissioning of a LROS certified ALMACS alarm system, and was also responsible for the cabling, bow thruster motor, frequency converter and shaft generator and the interfacing of all cabling for the secondary systems for the main engine, CPP installation and steering gear.

"This project is a great example of Alewijnse as partner for both navigation equipment and electrical installations," said Michiel Louwerse, manager navigation systems, Alewijnse.

"The delivered Raytheon Anschutz bridge system is a compact and complete bridge system which is ideal for this type of vessel."

## Comark introduces new displays

[www.comarkcorp.com](http://www.comarkcorp.com)

Comark Corporation reports that its new Opti-Bright Series LED-based, sunlight readable LCDs with transfective film enhancements are now available.

The Series features 0-100 per cent adjustable brightness control for both night time and full sunlight viewing requirements, and has a brightness rating of 1,000 NITs, or 800 NITs brightness when the touchscreen option is chosen.

The transfective film is used to illuminate the LCD, which the company says is particularly useful for sunlight readable requirements.

The units are also NEMA 4X rated for wet environments. All electronics are conformal coated to protect against moisture and corrosion.

"Comark's Opti-Brite LED LCDs have been designed and tested to provide our customers with rugged and reliable solutions that meet the strict operating requirements found in a marine environment," said Steve Schott, president of Comark.



The contract covers navigation, communications and electrical systems

## Kelvin Hughes introduces ECDIS4

[www.kelvinhughes.com](http://www.kelvinhughes.com)

Kelvin Hughes has introduced its ECDIS4 system, its fourth generation ECDIS and the latest member of the MantaDigital multifunction workstation family which can function as an ECDIS, a radar or a conning display.

For crew training purposes ECDIS4 features built-in scenarios which can be used by operators to familiarise themselves with the system in route planning and route monitoring operational modes.

ECDIS4 is also available as a software package which allows full operation of

the MantaDigital system in all its modes, and can be run on any suitable laptop computer for training or product familiarisation.

"We believe that this is the easiest ECDIS to operate and with its standard three-year warranty it offers the market the most cost-effective ECDIS solution available," said Bruce Santos, head of sales and marketing at Kelvin Hughes.

"When supplied as part of an ECDISplus bundle - which includes chart data, updates and training - chart updating is reduced to a single mouse click."

ECDIS4 is available with desk,

pedestal, flush and bridge wing mounting options and 20in and 26in screen sizes. It can display other manufacturers' radar as an overlay and includes a full screen chart mode together with facilities to manage chart data and updates.

In other news, Kelvin Hughes has also recently announced the deployment of its SharpEye solid-state S-band (10cm) radars for two 47m fast ferry catamarans constructed by Austal Ships in Western Australia for Caribbean operator L'Express des Iles.

The solid-state radars form part of Kelvin Hughes' integrated bridge pack-

ages for the new vessels. Other equipment supplied includes Kelvin Hughes Manta Digital 20-inch X-band (3cm) radars, ECDIS and VDR.

Kelvin Hughes had already supplied radar and bridge packages for two earlier 45m catamaran fast ferries built by Austal for the same operator in 2005.

"We operate fast craft, sometimes in darkness. The majority of vessels we encounter are very small, so for the safety of navigation it is important that we have the best radar available for these conditions," says Captain Onick Davel, L'Express des Iles.



# ECDIS Display by IMO Standard

WIDE Corporation, with commitment of Maximum Visual Precision introduces a new line up of ECDIS display complying to IMO Standard. The unprecedented display technologies coupled with *Color Calibration* & a *Green Initiative Of LED Backlight System* provide the best visualization solution in mission critical

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## Kongsberg supplies Australian Navy

www.km.kongsberg.com

Kongsberg has announced the signing of an agreement with BAE and the Australian Defence Force (ADF) to supply a custom engine room simulator for the training of engineers aboard Royal Australian Navy (RAN) Canberra Class Landing Helicopter Dock (LHD) vessels.

The LHD Engineering System Trainer (LEST), scheduled for delivery in February 2013, is designed to improve the training of LHD vessel engineering personnel. It will include full mission and desktop simulation systems, with integrated e-Learning facilities.

The LEST is designed to simulate operational control of all Marine Engineering (ME) systems and equipment installed on the LHD, enabling training for the operation of ME systems and equipment in remote, local, manual and emergency/casualty modes.

The system will focus on covering the operation and system understanding of

the combined diesel and gas turbine (CODAGE) configuration on the vessels; with electrical transmission where an electric motor is in the pod itself, connected directly to the propeller without gears.

The full mission part will include control room operator stations with software mimics and panels - featuring Kongsberg's BigView touch-screen software mimic - electrical switchboard mimic and panels, local control engine-room mimics and bridge control and steering panels.

"The LEST system will enable ME sailors posted to an LHD the capability of being assessed, certified and competent to perform their billeted job in the shortest possible time," says Mark Stuart Treen, sales and marketing manager, Kongsberg Maritime.

"With basic and advanced remote or on-campus training it will significantly reduce the training load placed on the vessels, and will be configured to meet the RAN's expected student throughput."



Kongsberg will provide engine room simulation systems as part of the package

## Imtech buys Canadian company

www.imtech.eu

Imtech has announced the acquisition of Canadian marine company Groupe Techsol Marine, which will now provide Imtech with a technological marine production site in Canada.

Groupe Techsol Marine has over 100 employees, and annual revenues of around €20 million. Imtech says that the acquisition will be paid in cash, though no price has been revealed.

Groupe Techsol Marine, based in Quebec, was established 15 years ago by the current management and specialises in marine technical solutions for vessel automation, alarm, monitoring and control, navigation and communication and electrical systems, including switchboard and console construction, as well as energy-efficient electric propulsion technology.

The company is primarily active in the market for government vessels, workboats, tugs, ferries and special purpose

vessels like icebreakers and high-tech research vessels.

"In accordance with our strategic growth plan, we aim to significantly strengthen our marine activities. Through a combination of organic growth and acquisitions, Imtech aims to double the revenue of its marine division to approximately 1 billion euro by 2015," said Imtech CEO, René van der Bruggen.

"In this context, Imtech intends to open marine production and multi-services sites in important new areas, where we will be equipping newly-built ships and refit projects with total technological solutions and at the same time offering customers first class service and maintenance support."

"Groupe Techsol Marine fits perfectly in our strategic plans. Under Imtech's technological and financially strong wings, the new Imtech company is expected to show continued healthy growth."

Groupe Techsol Marine's management will stay on after the acquisition.

## Transas installs simulators for three new clients

www.transasmarine.com

Transas has installed new simulators for three clients, CMI Maritime Services and Michaelmar Shipping Services in Manila, and the Naval Academy of the Uruguay Navy.

CMI Maritime Services will install a NTPRO 5000 bridge simulator with two desktop bridges at its Argo Navis training centre in Manila.

The navigational simulators are intended for training in watch keeping and operations with ECDIS, such as radar/ARPA operations, and familiarisation with all the details of electronic chart operation, including route planning and monitoring and the principles of displaying various types of information.

An instructor station and a debriefing facility provide instructors with tools for preparation, editing, conducting, monitoring, playback and assessing the exercise.

Michaelmar Shipping Services will also use a Transas multi-purpose simulator facility to educate seafarers in Manila.

The facility will offer training on the requirements of the IMO STCW 78/95 convention and Model Courses 7.01, 7.03, as well as a range of other tasks.

Under the agreement, Transas will supply Navi-Trainer Professional 5000 (NTPRO 5000) with a total horizontal visualisation area of 180 degrees.

The system will include a multi-task ship handling simulator capable of reproducing situations on the bridge, including mooring and manoeuvring in restricted waterways.

An instructor station and a debriefing facility provide the instructor with tools for preparation, editing, conducting, monitoring, playback and assessing the exercise.

Finally, Transas USA has completed the installation of a simulator complex for the Naval Academy of the Uruguay Navy.

The facility comprises the navigation and manoeuvring simulator NTPRO 5000, GMDSS Communications simulator TGS 5000 and Engine Room simulator ERS 5000 SOLO.

The navigation simulator consists of a Full Mission Bridge with seven visual channels on plasma displays, and consoles equipped with radars, ECDIS, manoeuvring and steering consoles, as well as a full GMDSS communications station, interconnected to GMDSS simulator TGS 5000.

## Tracking services introduced by Vizada

www.vizada.com

Vizada has launched its SkyFile C Store & Push service, to offer customers new data reporting and polling options, including VMS (Vessel Monitoring System), LRIT (Long Range Identification & Tracking) and FleetNet capabilities.

The system aims to assist shipping companies in adhering to international maritime law with respect to tracking, such as International Maritime Organisation regulations which stipulate that a vessel must send a position report every six hours, and that this report must in turn be delivered to the data centre in less than 15 minutes (or seven minutes in European countries).

SkyFile-C Store & Push runs over a dedicated platform, developed by Vizada at its teleport in Aussaguel, France, as part of a major upgrade to its Inmarsat-C infrastructure.

In addition to providing greater capacity for data reporting traffic such as VMS and LRIT, the platform enables all data reports transmitted from vessels to be

stored in a database at the gateway.

In case of network failure during transmission, the reports can be protected and forwarded to data centres at a later stage once the network issues have been resolved.

Data reports can be delivered over a number of different networks, including FTP and IP, to cater for the varying requirements of the parties involved in the reporting process, such as data centres, shipping companies, flag states, and local regulators.

"As monitoring and reporting traffic increases significantly, it is important for mobile satellite providers to step up to the challenge and ensure the most reliable and flexible service for both shipping companies and data centres," said Jean-Marc Duc, Inmarsat-C product manager at Vizada.

"The major investments we have made in our Inmarsat-C infrastructure over the past few years are a proof of our strong commitment to providing shipping companies' end-users with the most reliable way of conforming to IMO regulations."

## ORBCOMM AIS satellite ready for launch

www.orbcomm.com

ORBCOMM has announced that LuxSpace Sarl, an affiliate of OHB System AG, has completed construction and testing of the LuxSpace VesselSat1 AIS satellite.

The spacecraft was shipped to the Indian Space Research Organization's (ISRO) launch pad at Sriharikota in

Andhra Pradesh, off the Bay of the Bengal.

The satellite is expected to have launched by mid-October 2011.

ORBCOMM holds the exclusive licence for the AIS data collected by VesselSat1, which will provide additional coverage in the equatorial region and supplement ORBCOMM's constellation of 18 AIS-enabled next generation satellites currently under construction.



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# ECDIS and on-ship training

**With ECDIS mandation to be phased in from next year, training the world's seafarers on the equipment is going to put huge pressure on global training facilities. One way to relieve some of this pressure is through the use of computer based training on-ship, as Jim Dibble and Steve Healy, Seagull AS, explain**

IMO introduced, in 2010, its schedule for when different types of vessels have to have ECDIS. From now until 2018 virtually all ships over 500 gross tons will have to have the technology onboard and have crews that are ECDIS competent.

Up until now, when we've introduced new equipment, that equipment has been an aid to existing procedures and techniques, like when ARPA radar was introduced. That didn't replace something else that was in use, but now we're introducing ECDIS which is going to replace the conventional method of navigation.

We're eventually going to end up with no paper charts, which we've been using for hundreds of years, to move to a wholly electronic means of navigation.

This is extremely significant - and we've got to get the training right.

Time is of the essence - the 2010 Manila amendments to STCW have introduced new requirements for ECDIS training, there's a new IMO model course being developed, and there are an increasing number of ECDIS units on ships.

There are a number of statutory requirements, as well as the common sense requirement of needing to have people able to do the job.

Where years ago we used to have radar assisted accidents, now we're having ECDIS assisted accidents. There are many examples of this - far too many already.

To solve this we need to be pragmatic and do something both cost and time effective - if there are thousands of people that need to go through training then any provisions and timeline put in place need to allow for this.

Training has got to be suitable for different types of equipment and it has got to establish confidence and competence in the individual navigator - that's critical to all of this. The navigator has to be able to go aboard his own ship and feel that he knows how to use the equipment.

## Scale of training required

What does this new requirement mean in terms of the amount of training that will be needed across the industry?

If we're talking about ships over 500 tons we're looking at approximately 65,000 vessels. It's difficult to look at exact numbers of ECDIS on these ships and the numbers that need to be trained, but even conservative estimates can outline the scale of the issue.

Let's say there is a maximum of about 15,000 ECDIS in use today. On most ships there may be four navigation officers, and there will be a relief crew of two or four. So, roughly, there will be about six officers who will require training for each individual ship.

We would estimate that about 40 per cent already have recognised ECDIS train-

ing - this is probably far too high, but let's be generous. That means 60 per cent remain, and for 15,000 ECDIS that is about 54,000 people still left to be qualified, and that's just for the ECDIS already onboard.



*The number of people requiring ECDIS training in coming years is immense*

It has been suggested that only 2 per cent of the vessels that will require ECDIS have actually been fitted with approved ECDIS equipment today. That is a very small percentage.

So the new regulations will require thousands more ECDIS to be fitted. But how many ECDIS manufacturers do we have? We estimate that there's roughly 30.

All of the seafarers will need training, and that doesn't include the pilots, who would also need to use the equipment, as well as superintendents who will travel to the ship and work with the ECDIS.

It's an immense number that will need to be trained between now and 2018. The mind boggles.

In comparison with that number of seafarers that will require training, how many colleges and shore based facilities do we have in the world that can do ECDIS training? What kind of numbers can they put through?

It won't be enough. We need additional solutions.

Of course, this is also before we mention the manufacturer specific training geared to the use of the type of ECDIS found on the ship on which the individual is serving. That will be necessary in addition to the generic ECDIS training. What happens when the manufacturer brings out a new model and training needs to be updated?

Even ships within the same fleet will have different ECDIS on different vessels

- you can have a qualified watchkeeper with their ECDIS certificate, and on the next ship there is different equipment and it's no use.

We've got to be able to provide the initial training and then update that knowledge and competence to allow the crews to go from ship to ship.

Shore based training for ECDIS will be a big part of this, and a lot of shore based establishments do excellent work and excellent training. Training on a simulator is great, but normally they are very limited in the number of people they can take, and 99 times out of 100 they will be using a specific manufacturer's equipment - so even the generic training will be on a particular manufacturer's equipment.

Also, the inputs into that equipment from your other instruments will not be the same as the specific ones you have on your own particular ships. That's another difficulty that has to be coped with - and another burden on the available training facilities.

## On-ship training

We can't really see another solution other than doing this training on the ship, because the numbers are so huge that need to be trained between now and 2018.

However, training on the ship can be a practical, convenient, cost effective solution to many of these issues. When you train on the ship you can train on the actual equipment and the actual interfaces you

It is important though to recognise that CBT is not a quick fix. It doesn't solve all of your competence issues and doesn't solve your training issues overnight. In respect of ECDIS, hands-on training on the applicable equipment is vital and CBT can only support that.

However, it can also document training, useful in particular during audits and inspections, as well as recording results to the required standard.

## Training future

However it is achieved, training is going to be a fundamentally important part of the introduction of new navigation systems going forward, beyond just the ECDIS that we are looking at today.

The job of the watchkeeper is becoming more and more technical and they're relying more and more on electronics and other technologies.

In the industry, we may start losing the ability to do old-fashioned navigation, with basic situational awareness and plain old looking out the window - the conventional things we've always done - being lost to the new breed of seafarer. Indeed, this is already recognised as a problem.

The maritime industry is often compared with the aviation industry and the airlines have done research which suggests that, in a sense, airline pilots are forgetting how to fly as they are relying so heavily on technology.

**In the industry, we may start losing the ability to do old-fashioned navigation - the conventional things we've always done.**

will have to use in your day-to-day job.

Going from ship to ship, if you have the right training strategy then you can update that generic knowledge to suit the training requirements for that new piece of equipment with its new group of interfaces.

CBT - Computer Based Training - is a potential solution, particularly when blended with field training and workbooks, and can deliver both learning and assessment. If fully endorsed and supported by the shipping company, it can prove a powerful and effective learning tool.

Properly used and integrated into the company and shipboard training regime, it will lead to the achievement and maintenance of a high and safe standard of ECDIS operation. And given the technical and content standards that can be achieved today, it certainly has the potential to help in addressing this shortfall in training.

A recent FAA study said that pilots were suffering from "automation addiction" in modern planes. It's something that the shipping industry needs to be very aware of.

We mustn't lose the ability to do fundamental navigation and use basic equipment such as the sextant and azimuth mirror - though perhaps some may say that those abilities are already lost.

However, we would like to think that the industry is hanging on to those skills - and hope that training, even though much in electronic format itself, can supplement these skills and abilities rather than replace them.

DS

*This article has been adapted from papers presented at the Seagull 2011 UK User Conference in London*

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- Mr. Karstein Rasmussen,  
 General Manager, Storm Offshore AS

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# Lifting the veil on eNavigation

The details of how IMO's eNavigation initiative will affect the wider maritime industry are not yet widely understood as the project continues to develop, but descriptions of the obstacles that are slowing its implementation reveal what eNavigation will do, writes Fred Pot

The International Maritime Organization (IMO) defined the goals of eNavigation in rather lofty and general terms.

It, for instance, determined that eNavigation should:

- Facilitate communications including data exchange between ships, between ships and shore-based entities and between shore-based entities
- Integrate and present information on board and ashore to manage the work load of the users while also motivating and engaging the user and supporting decision making

A multinational group of experts ('the Correspondence Group' or CG) was formed under the auspices of the IMO's Maritime Safety Committee (MSC) and Safety of Navigation Subcommittee (NAV). The CG was tasked to assess what obstacles stand in the way of achieving the eNavigation goals.

You can't really identify such obstacles unless you have a fairly good idea of the information exchanges that eNavigation will encompass. So the CG first identified these information exchanges and then looked for ways to streamline their processes and procedures.

This is not rocket science. Business process streamlining has been practiced by just about every company and government agency because it typically pays huge dividends. In many cases companies had to change the way they do things just to survive.

This doesn't mean it is easy. Dreaming up a better way to do things is easy. The hard part is to turn these 'ideal world' dreams into tools that work reliably in the messy real world and to get people to use the new tools the way they were intended to be used.

That is exactly what the CG ran into. In its report to the NAV committee it presented a 47 page spreadsheet of the obstacles it identified that prevent streamlining of processes and procedures along with suggestions on how to bridge these 'Gaps', as they call them.

The detailed description of these gaps reveals a great deal about the specific processes and procedures the CG wants to streamline.

Fundamental to identifying the Gaps was identifying the information requirements of both mariners and shore-side users. The CG categorised information needs by the geographic areas of ship operations and the environment that exists within those areas.

The CG identified five separate 'Service Areas' along with an extensive menu ('Maritime Service Portfolio' or MPS) of information services needed for each one:

1. Harbour operations

2. Operations in coastal and confined or restricted waters
3. Trans ocean voyages
4. Offshore operations
5. Operations in Arctic, Antarctic and remote areas

Within a service area, menu items are broken down by information service users:

1. Mariners
2. Shore-based users

## How will eNavigation change ECDIS?

As e-navigation is implemented, ECDIS is expected to evolve in many ways, with its final shape still a matter for supposition and conjecture.

Many of the new eNavigation information services for mariners will be made available through new features. When selected, these features are intended to present the information in a meaningful, task oriented way designed to assist the mariner in making operational decisions.

Some examples of the proposed new features are:

**Automatic updating of Electronic Nautical Charts** - The goal appears to be to use the voyage plan to automatically update the relevant ENC's and electronic versions of publications (pilots, pilotage charts, tide tables, light list, etc.) in real-time.

The gaps that the CG identified are 1) the lack of timely delivery of ENC's and updates via the internet, 2) the unnecessary complexity introduced by encryption of electronic charts and 3) the lack of standards for transmission and display of non-ENC publications.

While commercial solutions to overcome the ENC update problems are available, they are not available to all mariners. Also, electronic versions of publications are scarce.

**Manoeuvring Support** - The goal appears to be to support the mariner in making manoeuvring (and mooring) decisions by presenting real-time own-ship status information, environmental information (winds, currents) along with a highly accurate own ship position and heading relative to the dock. This might even include a prediction of what the ship's position and heading will be in a couple of minutes.

To receive winds and currents and to get a highly accurate position and heading relative to the dock it may well be necessary for the ship to exchange information with dock-side equipment, however, and this is another gap: standards for such information exchange are lacking.

**Digital information exchange with the Pilot's Portable Unit (PPU)** - The CG identified as a gap that digital communication with the pilot could be improved. The AIS

'Pilot Plug' was the first attempt to exchange digital information with pilots.

It allowed a pilot to receive and display AIS information and own-ship information on the carry-onboard laptop (PPU) but not all ships provided pilot plugs and those that did often positioned the plug in the wrong place on the bridge or had a plug that didn't work at all.

It appears that the CG proposes to fix these problems and to broaden the information exchange to more tightly couple the ship's navigation system and the PPU. That could, for instance, include sharing VTS instructions, real-time environmental observations, waypoints, routes and manoeuvring information.

**Automatic, task oriented presentation of relevant Maritime Safety Information** - The CG identified a gap that relates to Maritime Safety Information (MSI).

Actually, it is more of a gaping hole than just a gap - upon receiving real-time MSI's and other navigational warnings or broadcasts that are relevant for the vessel's navigation, there is no interfacing technique that allows this information to be visible in real-time to the mariner.

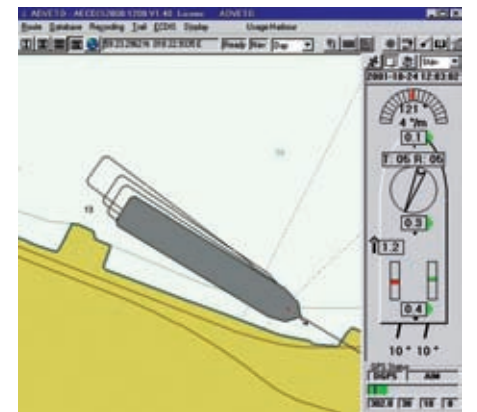
To fix this, the CG proposes that shore authorities transmit information critical to ship's safety almost in real time and implement appropriate systems to enable them to do so; to present appropriate MSI's on a navigational display using standard symbols and text that consider the human element for effectiveness while preventing information overload; to automatically identify relevant MSI's during route planning and voyage planning; and that MSI's have a parameter for urgency and that the ECDIS system provides the alarms.

**Real-time environmental observations** - The CG identified as a gap that currents, water levels and weather information is not automatically received. The CG appears to feel that, if such real-time observations were automatically received and presented (on-demand), then the mariner could and would use them to make operational decisions.

For example, transmission of real-time, tide-corrected bathymetry would allow the mariner to use ECDIS to automatically draw safety contours on the screen by taking into account the ship's draft and the minimum under keel clearance.

**Weather Routing** - The CG focused on gaps in delivery and presentation of real-time observations but, surprisingly, did not focus on weather routing.

Many ECDIS systems are not able to simulate alternative trans ocean voyage tracks to estimate their time of arrival and fuel consumption while taking into account own-ship loading characteristics, short-term gridded binary (GRIB) weather forecasts, seasonally adjusted climatologi-



Example of a Manoeuvring Screen.  
Photo: ADVETO

cal information and pilotage charts.

If it were made available, weather routing would assist the mariner with selecting a safe track while minimising fuel consumption.

**Traffic Organisation Service (TOS)** - The CG identified as a gap that there are no standard data formats for on board capture and presentation that covers the entire scope of information provided by a VTS. The latter includes things like the VTS traffic flow plan and the time slot allocations to individual ships.

VTS authorities in some cases may not only prescribe traffic separation schemes and arrival and departure sequences but actually prescribe the track to be followed, the time to start on the track and the arrival time at waypoints ('Gates') along the prescribed track.

This is likely the case not only for busy harbour approaches but also in waterways such as the Bosphorus, the Malacca Straits, the English Channel, Gibraltar, etc.

ECDIS could be set up to automatically receive and display the prescribed track along with the speed to maintain to arrive at the check-in gates at the prescribed time. Doing so will greatly reduce voice VHF transmissions and thereby ambiguity caused by language comprehension obstacles.

The CG identified as a gap that current VTS hardware and software may not have the capacity for real time display of vessels' track to provide a (NAS or) TOS service.

eNavigation will change not only ECDIS but also shore-based VTS Systems. It will require, for instance, upgrades to enable these systems to automatically receive and accept Automatic Identification System (AIS) transmissions (vessel and voyage particulars and position updates).

Upgrades will also be required to allow transmission of traffic flow plans, their associated tracks and time slot allocations to individual ships.

**Navigation Assistance Service (NAS)** - This service is normally rendered at the

request of a vessel or by the VTS when deemed necessary. NAS is especially important in difficult navigational or meteorological circumstances or in case of defects or deficiencies such as lack of ENC coverage.

When requested, the VTS operator assists the bridge team with determining the vessel's position and provides advice to support on board navigational decision making.

The CG notes as a gaps that 1) the VTS operator should have confidence that the information is correctly exchanged with the ship and 2) that the system enables the operator to effectively communicate with the bridge team.

To be effective, NAS requires close coupling of the on board navigation system with the VTS system. AIS provides some of the required telemetry (GPS & heading sensor) but standards are lacking for the exchange of other information, such as digital transmission and acknowledgement of information, warnings, advice and instructions that the VTS Operator provides.

**Remote Inspection of Navigation Equipment** - Several of the gaps the CG identified refer to remote monitoring of the quality of on-board navigation systems by shore based authorities. It seems that the CG proposes to enable shore-based authorities to remotely determine things like:

- The make and model of the ECDIS and radar systems that are being used, and

whether they are running the latest version of the system software. This tells them, for instance, whether the on board ECDIS can automatically receive and display MSI's.

- The make and model of the GPS and eLoran receivers that are being used and whether they are running the latest version of their system software along with their position accuracy.

- The version of the ENC being used for the coastal area and for the harbour approach and whether the on-board ECDIS system can automatically receive and install a new version.

This type of fully automated remote inspection is likely to be more effective than the current practice of only relying on one-time type certification of navigation equipment that freezes its further development.

**Remote Update of AIS Voyage Details** - The CG identified as a gap the "lack of a single-window and/or automated and single entry for any required reporting information into the system for it to be shared by authorized authorities without further intervention by the ship during navigation."

From the proposed solution it becomes clear that the CG is referring primarily to AIS voyage details (message 5). The CG appears to favour enabling shore-based authorities to remotely update a ship's AIS voyage details if they are out of date, which still occurs quite frequently.

The CG also proposes that ship operators use satellite-based systems to monitor

its ships' AIS transmissions (AIS-S) and alert the bridge team if the voyage details are out of date.

## eNavigation and administrative procedures

The CG identified a host of gaps that involve processes and procedures that are not associated with the safe navigation of the ship. These administrative processes and procedures currently, however, take up a lot of the mariner's time. An example is associated with ships' reporting obligations:

**Standardised and automated reporting** - The CG identified insufficient means for ship reporting as a gap. The CG proposes to "remove the need for human interface and communication of manually operated systems by replacing them with automated systems (based on shipboard AIS) that will seamlessly populate VTS and Marine Domain Awareness (MDA) systems, anywhere in the world."

This is an ambitious goal. It requires for instance that the European SafeSeaNet, the Baltic nations' HELCOM, the US Electronic Notice Of Arrival/Departure (eNOA/D) and all similar national and port systems in the world will automatically receive and accept a single set of elec-

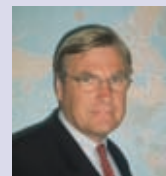
tronic reports about the vessel, the voyage, the cargo, the crew and the passengers.

Please remember that the above list of proposed services was not provided by the CG. The author merely inferred them from the CG's gap analysis.

The list of proposed services is, also, not intended to be comprehensive. The CG identified many more gaps that are associated with Search And Rescue (SAR), with Ice Navigation along with a host of other gaps but the services described above represent the major ones that mariners would be able to use in the normal course of operations.

Everyone that will be affected by eNavigation should read the report of the CG to the NAV committee (see <http://e-nav.no/media.php?file=96>).

It is not too late to influence the design of eNavigation services that will be offered. The eNavigation Conference in Seattle (November 29 - 30, 2011) provides an excellent opportunity to provide feedback to not only the Chairman of the CG (Mr John Erik Hagen, Norwegian Coastal Administration) but also to the USCG and US Federal Department of Transportation officials that in turn are in a position to influence implementation of the CG proposals at the IMO, IALA and ITU level. **DS**



### About the Author

Fred W. Pot is Principal of Marine Management Consulting and can be reached at [fred.pot@enavigation.org](mailto:fred.pot@enavigation.org). He acts as Co-Chair for the 2011 eNavigation Conference along with Capt. Robert G. Moore, who also contributed to this article

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# Training for complexity

**In an era of technological advancement and rapid system development, familiarisation training is a key element in ensuring competence and deriving benefit from new systems. Dr Andy Norris explores some of the available options in modern navigation training**

It is an unfortunate fact of life that the ever-growing capability of navigational equipment is generally more than matched by the growth of complexity in its use.

Of course, it's a trend that is generally true of all professional use software based systems, even the humble word processor. They can do a lot but extensive learning is required to be able to use all their available facilities.

Twenty years ago many engineers, including me, were convinced that intuitive user-machine interfaces for all navigational equipment were just a few years away and that the user manual would become a thing of the past.

We were not only wrong but would have been dismayed if we had known that in 2011 there would be an ever-increasing debate, particularly around ECDIS, on whether manufacturer-specific familiarisation training should be formalised.

ECDIS is a complex system and manufacturers have generally needed to provide their own solutions on how the user should access the facilities.

In particular, unlike the word processor market, there is not a dominant product and so users have to become separately familiar with every different ECDIS they encounter during their careers.

Although the complexity of ECDIS has brought this subject to the fore it is also of significance to other bridge equipment with high levels of user functionality, in particular radar and integrated navigation systems.

## ISM code

The requirement "to ensure that new personnel transferred to new assignments related to safety and protection of the environment are given proper familiarisation with their duties" is explicit in the International Safety Management code, adopted by IMO in 1995.

At that time the ARPA radar was generally the most complex item of navigation equipment on the ship's bridge – and, even then only ships above 10,000 gt needed ARPA to be fitted.

However, most ARPAs on board in the mid-nineties were 'button driven' and their fundamental operation was quite similar from system to system. IMO requirements for both radar and ARPA were unchanged from 1979, anticipating the technology capability of the early 1980s.

The standard training of the OOW was sufficient background to be able to use just about any navigational equipment on the bridge with minimal specific introduction. This could be obtained during a relatively brief bridge walk around with the master or first mate.

However, at the time of the introduction of the ISM code, radars with user interfaces strongly influenced by PC developments, such as the use of drop down menus, were just becoming available. These effectively

paved the way for much increased functionality, some statutory and others as manufacturer-specific 'goodies'.

Today, even small ship radars require tracking facilities, together with many additional functions, such as maps, routes, AIS display functionality, comprehensive stabilisation modes and use of the Consistent Common Reference Point.

With added chart facilities, the IMO



ARPA radar used to be the most complex navigation equipment on the bridge – those days are long gone. Photo: Clipper

defined Chart Radar can become even more complex than a standard ECDIS.

All this functionality, even on a standard radar, makes it difficult to believe that operational knowledge can be achieved with just a brief introduction to the equipment.

To fully meet the requirements of the ISM code with today's fitted equipment, there does seem to be a need for a more formalised equipment familiarisation process that at least encompasses ECDIS, radar and any fitted integrated navigation system.

The latest IMO radar Performance Standards state "The design shall ensure that the radar system is simple to operate by trained users". This certainly does not rule out the need for familiarisation training.

## Familiarisation

Familiarisation really consists of two separate parts. The most demanding of these, as already discussed, is learning the manufacturer-specific way in which the functionality is accessed on the equipment to be used.

The other part is to become familiar with the bridge layout, including gaining an understanding of the specific interconnection between units. It is this part that remains ideally suited to a formal bridge walk around.

There is a lot of information that needs to be imparted, with just a few examples being – What systems provide the primary and secondary position fixing equipment? What sensors provide velocity and heading information? What are the installed radar systems? Where is the physical location of the CCRP and what equipment is

automatically referenced to it? What is the backup for the primary ECDIS, and so on?

The standing bridge instructions also need to be covered – whether written or verbal – at a detail appropriate to the level of the particular watch keeper.

But how should equipment familiarisation be tackled?

One-to-one tuition by an experienced officer is certainly feasible. This can be very

tion systems already state that "Material enabling onboard familiarization training should be provided for the INS". An appendix to the standards gives detailed guidance on what is required.

This model should perhaps be used for ECDIS and radar. In fact, the radar approval specification, IEC 62388, already goes some way towards this by checking that familiarisation material is available "for example, as a DVD, a concise user guide, a brief operator instruction or other portable media."

## Competency testing

The difficulty embedded within any training is ensuring that the competencies taught have been adequately learnt.

In principle, on a conventional onshore course, these can be effectively examined at its completion, although we know that some courses offer hardly more than a 'completion' certificate, with competencies not really evaluated.

The formal issues of certification are particularly difficult to solve onboard, at least in a manner that has any meaning outside that particular ship.

Nevertheless, the master or first mate should be in a good position to be able to assess equipment familiarisation competency before a new OOW undertakes a watch, perhaps by asking the newcomer to demonstrate, physically or verbally, tasks 'randomly' selected from a complete list.

It is in the master's interest to ensure that both suitable training has been undertaken by the new OOW and that sample competency is demonstrated. With onboard training facilities available, the master is in complete control of the process.

The ship's ISM procedures should be configured to give confidence to all that the process is being properly undertaken.

It is also in the master's interest to similarly check the competency of a new appointee who comes with paperwork indicating that he or she is already familiar with the use of particular equipment.

In terms of familiarisation training we are only talking about the competency to access the functionality of the equipment – for instance, how to change the value of the safety contour on the ECDIS and not to explain how to assess the optimum value of that contour.

This not only significantly reduces the assessment task but also highly reduces the content of the familiarisation training.

Of course, as is usual, the master or first mate will also ask more demanding questions on the practice of navigation in order to better assess the overall competence of the newcomer.

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

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