Digital Ship
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www.thedigitalship.com

185-vessel software deal awaits after Tidewater trial

ABS Nautical Systems is to install its NS5 software system aboard a number of vessels operated by Tidewater Inc, as part of a trial programme that should see 185 vessels installed by 2013

Tidewater Inc, owner of approximately 400 vessels serving the offshore energy industry, is to conduct a trial of fleet management software from ABS Nautical Systems.

The vessel operator transports crews and supplies, tows and anchors mobile rigs, assists in offshore construction projects and performs a variety of specialised marine support services world-wide, with over 90 per cent of its fleet working internationally in more than 60 countries.

As such, Tidewater has put a lot of effort into selecting a system that will be able to cope with the diverse demands of its fleet on a global basis, and is looking forward to examining the capabilities of the ABS-NS system.

"Our vendor vetting process was time intensive," said Bill Scott, manager, engineering and technical services, Tidewater.

"It was imperative that we selected a company that not only had a solid product, but a business plan that echoed ours - at present and into the future."

ABS Nautical Systems says that it intends that the trial will result in it becoming Tidewater's global fleet management software provider.

This would see its NS5 software package replace an internal system, with the new integrated software being used to help manage principal operational functions including maintenance, vessel-initiated requisitions and relevant regulatory requirements.

As part of the trial Tidewater will implement several modules from NS5, including Maintenance & Repair, Drydocking, On Demand Reporting and Web Based Vessel Drawings, as well as interfaces to its current and future ERP solutions.

Following a successful pilot phase, the modules will be installed in a phased approach on approximately 185 of Tidewater's vessels over the next 24 months.

"ABS Nautical Systems will provide us with structure in which to schedule and track our maintenance and thus continue to build uniformity throughout our entire organisation, while simultaneously and seamlessly integrating our supply chain processes," added Mr Scott.

"We are confident that with the system's Class integration and the assembled team's experience, this project will be a success."

Karen Hughey, president and COO of ABS Nautical Systems, also commented: "We are pleased to have been chosen as the software solution for the world's largest marine provider of sup-

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Tidewater operates a fleet of approximately 400 vessels

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port services for the offshore energy industry."

"Tidewater needs a product that not only offers usability, but also stability, and ABS Nautical Systems aligns with these needs. We anticipate a long relationship and look forward to joint success with the Tidewater team."

Record growth

This deal with Tidewater is part of what has been a successful last 12 months for ABS Nautical Systems, with the company having recently announced that it achieved record growth in 2010, signing 83 new clients with a combined total of 1,053 vessels overall.

In the month of December alone the company says that 18 new customers were signed, joining a new client roster for the year that includes Chevron, Reederei Offen, Hapag-Lloyd, Donnelly Tankers Management, Nereus Shipping, Fleet Management Ltd., NAVSEA and Arab Maritime Petroleum Transport Company.

2010 also saw the company enter the Vietnamese market for the first time following two new contracts with Vietnam Petroleum Transportation Joint Stock Company and PVTrans Oilfield Services.

"We more than doubled our year-over-year growth and we continue to see this trend increasing," said Joe Woods, senior vice president, sales and marketing for ABS Nautical Systems.

"As such, we will continue to expand our global footprint to ensure that we provide our customers with the best service and delivery possible."

ABS Nautical Systems also opened new offices in Vancouver and Shanghai in 2010, and will be announcing three additional openings in the spring of 2011.

"Seventy five per cent of the clients we signed last year are based outside of the United States and as we continue to see this international trend emerge, you will see us move into new regions around the world," said Ms Hughey.

ABS Nautical Systems says it will soon be releasing an updated version of its NS5 software suite, NS5 Enterprise, which aims to improve usability, reporting, speed, overall performance and add two additional deployment options. DS

'Seventy five per cent of the clients we signed last year are based outside of the United States' – Karen Hughey, ABS-NS

Mowinckel offers free SMS and e-mail to crews

www.seasecure.net

Mowinckel Ship Management has installed the CrewCommCenter from SeaSecure across its fleet, an application which offers free SMS and e-mail for crews for a fixed monthly cost.

Mowinckel's initial goal when searching for a new service was to optimise its web usage over its installed KVH VSAT antennas. The CrewCommCenter system includes web optimisation capabilities using dedicated proxy services, and was taken for testing by Mowinckel in October 2010.

Following the successful completion of these tests Mowinckel ICT manager Runar Gaarder and his team decided that the company would install the SeaSecure product across its whole fleet.

During the testing period crews had access to the free SMS World Wide Service, both for incoming as well as for outgoing messages, which proved to be a popular added benefit of the technology onboard.

A built-in thin chat client (supporting Yahoo, MSN, AOL, ICQ and Facebook) was also included, which allowed crews to use their ordinary shore side user IDs to access the services within the CrewCommCenter, but without generating the standard amount of data traffic that would typically be involved.

For security, firewalls on the vessels shut down all common ports and crew are only able to use SeaSecure dedicated ports for the browsing and chat functions.

The SeaSecure system also manages automatic switching between the KVH VSAT antennas and the Inmarsat back-up systems installed onboard as vessels move out of VSAT coverage areas.

SeaSecure says that the CrewCommCenter continues to provide the crew with full use of the free SMS and free e-mail service when using the Inmarsat terminal.

Mowinckel is to install the new systems across its whole fleet

Integral agrees USCG deal

www.integ.com
www.idirect.net

Integral Systems has been selected as the prime contractor on a five-year, $10 million IDIQ (indefinite delivery/indefinite quantity) contract with the US Coast Guard to equip its large cutter fleet with VSAT communications technology, including routers and modems from iDirect Government Technologies (iGT).

Integral's Satcom Solutions division, formerly CVG and Avtec Systems, will serve as lead integrator on the project to modernise USCG's communications backbone for its fleet of up to 76 large cutters with the introduction of Ku-band systems.

Implementation will begin on three cutters initially, in early 2011.

Integral will supply its 117 MT maritime stabilised satellite terminal under the deal, a Ku-band VSAT system providing Single Channel per Carrier (SCPC) or on-demand networks supporting capabilities like Video Teleconferencing (VTC), Virtual Private Networks (VPNs), and Voice over IP (VoIP).

iDirect will install its e8350 satellite routers, supporting DVB-S2 transmission technology using LDPC (Low Density Parody Check) and adaptive coding and modulation (ACM).

"Through our partnership with iGT, the US Coast Guard will have access to one of the most advanced satellite communications networks available," said Steve Gizinski, general manager of Integral Systems' Satcom Solutions division.

"Our interoperable, commercial-based 117 Ku-band maritime antenna system ensures a quick and easy transition as the Coast Guard replaces its legacy network. We look forward to working closely with iGT on this vital programme."

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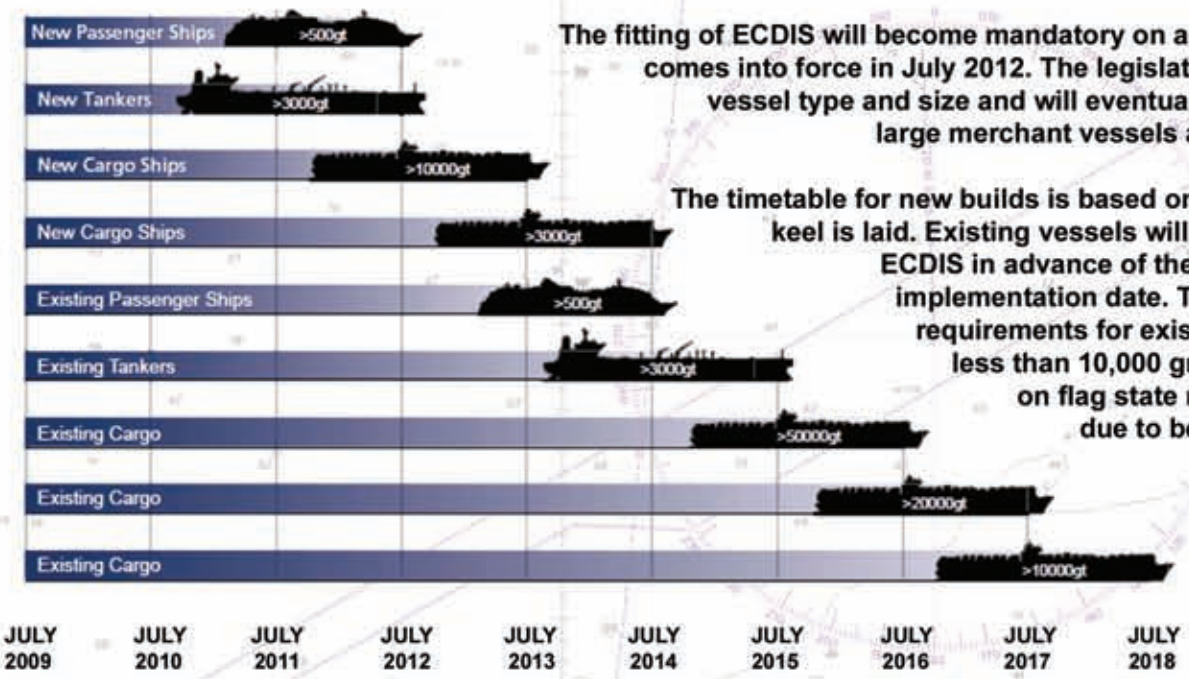

The fitting of ECDIS will become mandatory on a rolling timetable that comes into force in July 2012. The legislation will be phased by vessel type and size and will eventually apply to almost all large merchant vessels and passenger ships.

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

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Varada Marine in fleet-wide VSAT deal

www.ship-equip.com

Ship Equip and Varada Marine has signed a contract whereby Varada will install Ship Equip VSAT systems across its entire fleet of Offshore Supply Vessels.

Varada Marine, headquartered in Kristiansand, Norway, has announced ambitious plans whereby it aims to become "one of the largest offshore support vessel companies in the world", and has an extensive new building programme underway at the ABG Shipyard in India in support of this goal.

Deliveries off the VSAT system will be scheduled to fit in with this new building programme, with the first system having already been delivered to the yard.

Varada Marine will be provided with Ku-band services with 128 kbps upload and download bandwidth speeds. Four telephone lines, including a prepaid crew calling set-up on selected lines, will also be included in the package.

"We are very happy that Varada Marine has chosen SEVSAT from Ship Equip for their entire fleet," said Ship Equip CSO, Gilles Gillesen.

"It confirms what we have worked hard to establish, that Ship Equip is able to handle large fleets of vessels, and this seems to be established in the market too."

This deal is an indication of what has been a good start to 2011 for Ship Equip, which reports that its total number of installed VSAT systems has passed 900 in the new year.

The company says that it also has an order backlog of more than 230 SEVSAT systems, and estimates that its share of the current maritime VSAT market is between 10 and 20 per cent.

"As the installation rate hit 24 SEVSATs in December 2010, or more than one new SEVSAT per working day, we saw the installed base grow quickly towards 900," said CEO Ivar Nesset.

"Our main focus will be to continue providing superior support and unsurpassed uptime on our service. Providing 20 gigabytes of data and voice communication per ship per month at a low fixed price is hard for anyone to compete against."

Mr Gillesen believes that there is still vast potential for VSAT growth in the maritime market, and hopes that the company will be able to build on its achievements so far.

"Still only around 5 per cent of the world market have adopted VSAT technology as of today, meaning there are 50,000 ships or more that would benefit from such solutions," he said.

"With this technology we believe it is possible to reduce costs and increase billable days for the ship owner. This is one of the key drivers to convert to this technology."

Ship Equip has recently opened a new office in Rotterdam manned by engineers to work on new installations, as well as carrying stocks of antennas and spare parts to assist in the process.

During Q1 2011 the company also plans to open a new office in Dubai, to add to its offices in Singapore and Houston.

Varada Marine's Offshore Supply Vessels will now be installed with SEVSAT

Global service programme launched by Iridium

www.iridium.com
www.radioholland.nl

Iridium is establishing a 'Global Service Program' for customers of its Iridium OpenPort system, which aims to provide shipboard support to any OpenPort customer at more than 50 ports.

Launching first quarter 2011, this service will be based on a network of technicians located around the globe. As part of this initiative, Iridium has signed an agreement with Radio Holland to be the first service partner under the programme.

Radio Holland, owned by Imtech Marine, will provide portside technical support and assist Iridium with global logistics, managing three regional service centres.

"Iridium recognizes the critical nature of maritime communications, and has established this program to provide customers timely expert support," said John Roddy, executive vice president, global operations and product development, Iridium.

"Instituting the Global Service Program is an important element in our business strategy for Iridium OpenPort, and this agreement with Radio Holland is a significant step in that direction."

In addition to this new network of maritime service centres, as of 2011 Iridium says it will be providing a five-year standard warranty for all Iridium OpenPort units.

"Iridium OpenPort continues to provide an unequalled value proposition," Mr Roddy said.

"Iridium OpenPort offers the highest quality and lowest cost of ownership of any communications solution for ship's business and crew welfare. Ship operators have told us that they have experienced immediate savings after switching to Iridium OpenPort."

In other news, Orbital Sciences Corporation has signed a systems integration and test contract with Thales Alenia Space, the prime contractor for Iridium NEXT, to integrate the communications payloads and platforms of the low-Earth orbit satellites, and then test the systems at its manufacturing facility.

"We are delighted that Thales Alenia has selected Orbital as systems integrator, which represents another major step forward in the development and construction of Iridium NEXT," said Iridium CEO Matt Desch.

"Orbital – like Iridium – is a long-time and trusted US Government partner, which should advance the objective of hosting payloads on our new satellites for projects such as Earth observation, scientific monitoring and space situational awareness."

New applications for Iridium transceiver

www.iridium.com

Iridium reports that it has certified the first Iridium 9602 Short Burst Data (SBD) Transceiver-based partner devices, which should open up new applications for tracking assets such as cargo and ships via the company's satellite network.

The Iridium 9602 transceiver can be used as the data communication enabler for portable tracking and monitoring devices.

One of the new approved devices using the transceiver is from Cubic Global Tracking Solutions, with its GS-5L system for tracking and monitoring the temperature, environmental conditions, location or maintenance needs of assets (such as containers) throughout their lifecycle.

Alerts can be issued when specific conditions (such as cargo route deviation, sensor limits, equipment faults, tilting or tampering) are sensed.

"Iridium is advancing the way global enterprises conduct critical daily activities," said Patrick Shay, vice president and general manager of data services for Iridium.

"The Iridium 9602 is ideal for a wide range of applications, including remote tracking, personal location/safety, monitoring and tracking of assets such as cargo, ships or trucks, as well as controlling and monitoring equipment for greater efficiency."

Iridium-based system approved

www.tesacom.net
www.iridium.com

Tesacom has announced that Iridium has certified its new VKI maritime satellite communication system for operation on the Iridium network.

The new Tesacom VKI product provides integrated voice, data, e-mail and vessel tracking solutions for the maritime sector.

"The Tesacom VKI LRIT system is an excellent example of the innovative solutions being developed by our value-added partners," said Greg Ewert, executive vice president, global distribution channels, Iridium.

"Partners like Tesacom are a key element in solidifying our position as market leader in mobile satellite communications."

Jose Sanchez Elia, CEO of Tesacom, said, "With Iridium's global coverage and flexible services, and Tesacom's commitment to providing its customers with the highest quality value for cost-saving solutions on the market, Tesacom VKI is the choice for anyone sailing around the world."

Intellian's new CSO, Søren Einshøj

Intellian has appointed Søren Einshøj as its new global Chief Strategy Officer. Mr Einshøj has nearly twenty years experience in the marine industry, having been involved in the founding of **Marlink** in 2001 and serving as the company's CEO until 2007.

SAM Electronics has been contracted to distribute **KVH's** series of maritime communication systems throughout Germany, following a new agreement between the two companies.

www.intelliantech.com
www.marlink.com

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Globe Wireless CEO steps down

www.globewireless.com

Frank Coles has stood down as Globe Wireless CEO and president, after 11 years with the company.

Mr Coles was appointed to the position of CEO in 2005, having previously served as COO and as managing director during his time with the company.

Globe Wireless has been involved in a number of bold expansion moves in the maritime market place in recent years under his leadership, including the acquisitions of SeaWave and Zynetix.

The technology created by both of these companies was integrated and updated to create Globe's new iFusion service, launched in September last year, which Mr Coles had called a "new phase in maritime communications."

2010 also saw the company agree a deal to supply FleetBroadband services to 350 vessels operated by Anglo Eastern Ship Management - one of the largest satcom deals in maritime history.

Mr Coles has been replaced as CEO by Kenneth Jones, founder and chairman of Globe Wireless, who has returned to the daily leadership of the company.

Mr Jones founded Globe Wireless in 1994 and headed the company as CEO until 2004, when he became chairman of the board. He has been directly involved with Globe Wireless throughout its history.

"Customers can expect continued efforts by Globe Wireless to enhance our products, support and services," he said.

"Globe Wireless will continue to be the innovation leader for maritime communications."

The company says that it has now employed an executive search firm that will be helping Mr Jones to expand the management structure of Globe Wireless.

Frank Coles (left) has stepped down as Globe Wireless CEO, with company founder Kenneth Jones (right) stepping back into the role

Orange VSAT for Crest Subsea

www.orange-business.com

Crest Subsea is to install VSAT from Orange Business Services to run the communication infrastructure of its diving support vessels.

Crest Subsea, a subsea support company, is part of the Pacific Radiance Group of companies, based in Singapore and providing offshore support vessels and integrated marine solutions for oil and gas, mining, engineering contracts and related services support industries.

The new system will connect vessels to the Pacific Radiance network via the Orange satellite service, with the aim of implementing new communication services and business applications across the entire fleet.

Using the VSAT, Crest will integrate its vessels into the onshore corporate network, enabling access to all business applications.

In the other direction, those on shore will be able to monitor activities on the vessel through real-time transmission of electronic data on the status of various systems, and real-time monitoring of the use of consumables for each vessel.

For crews, the VSAT will provide options for communication by phone, e-mail and online chat while they are off duty. Installation of satellite television for crew use is also being considered.

These facilities are seen as a key benefit of the service by Crest, which is looking to double its workforce over the next four years.

Under the contract Crest Subsea has chosen a homogeneous IP telephony solution, based on Business Talk Global from Orange Business Services, where the conventional PABX is replaced by a central IP-PBX.

Crest will use the Orange system to integrate its vessels into the onshore corporate network

This central unified messaging system allows for number portability, flexible billing (consolidated, by site) and a report generation system.

In addition, with the IP telephony solution Crest will have a private numbering system with access to the Crest Subsea directory by means of abbreviated dialling.

"Crest Subsea particularly valued the Orange contribution in simplifying the complexity of the network infrastructure via a joint development of a technology and innovation roadmap to enhance workforce effectiveness," said Bruce Saunders, general manager, Crest Subsea.

"Orange not only provided the necessary skilled resources, but also provided resource resilience through management of its internal resource pool. The processes and methods employed by Orange consultants internally are now being successfully used in the Crest Subsea environment."

Thuraya signs UAE MoU

www.thuraya.com

Thuraya has signed a Memorandum of Understanding with UAE's National Transport Authority (NTA), to create a framework for mutual support and collaboration in the field of mobile satellite telecommunications.

According to the MoU, Thuraya and NTA will explore and define areas of potential cooperation for the deployment of Thuraya services and solutions onboard UAE flagships.

Both parties will also coordinate efforts to meet NTA's satellite communications requirements inside and outside the UAE.

Additionally, on an international level Thuraya and the NTA say they will together liaise with the International Maritime Organisation (IMO) in pursuit of accreditation of Thuraya's maritime offerings.

"Thuraya has an excellent portfolio of satellite data and voice telecom solutions for the maritime industry and other sea-related segments," said Sultan Al Ghafli, Thuraya chief strategy officer.

"This MoU paves the way for future collaboration that will extend our presence in the maritime sector on a national and international scale."

Salim Al Zaabi, acting director general and executive director of the maritime sector at NTA, also spoke of the importance of the deal from the Authority's point of view.

"Signing an MoU with Thuraya will open the door for us to explore areas of mutual cooperation that will support NTA's pioneering role in the UAE," he said.

"We are excited about partnering with Thuraya to implement advanced and reliable satellite telecommunications solutions in land vehicles and sea vessels in the UAE."

In other news, Thuraya has also announced the appointment of Samer Halawi as the company's new chief executive officer.

Mr Halawi assumed the office on 23rd January 2011, following the return of previous CEO Yousuf Al Sayed to the Etisalat Group. Mr Al Sayed had been CEO since 1998.

Salim Al Zaabi, acting director general and executive director of the maritime sector at NTA, and Sultan Al Ghafli, chief strategy officer at Thuraya, mark the signing of the MoU

VSAT deal for V.Ships Offshore

www.broadpointinc.com

Broadpoint has announced the signing of new contracts with shipping company V.Ships Offshore, to provide Ku- and C-band VSAT satellite services for the company's worldwide operations.

Under the contracts, Broadpoint will deliver telephone access with local dialling capabilities, crew calling card services, and internet access including Wi-Fi to the vessels in V.Ships' global construction fleet.

"We're very pleased to be embarking on this new relationship with Broadpoint and look forward to the benefits it will bring V.Ships Offshore and our employees," said Frank Feurtado, offshore director, V.Ships Offshore.

Bryan Olivier, president and chief operating officer, Broadpoint, also commented: "These contracts mark the beginning of what we expect to be a long and productive partnership between Broadpoint and V.Ships Offshore."

"In providing global connectivity to V.Ships Offshore construction fleet we will be enabling crews to work more efficiently by delivering a reliable connection to colleagues around the world, as well as allowing employees to maintain contact with their families and friends."

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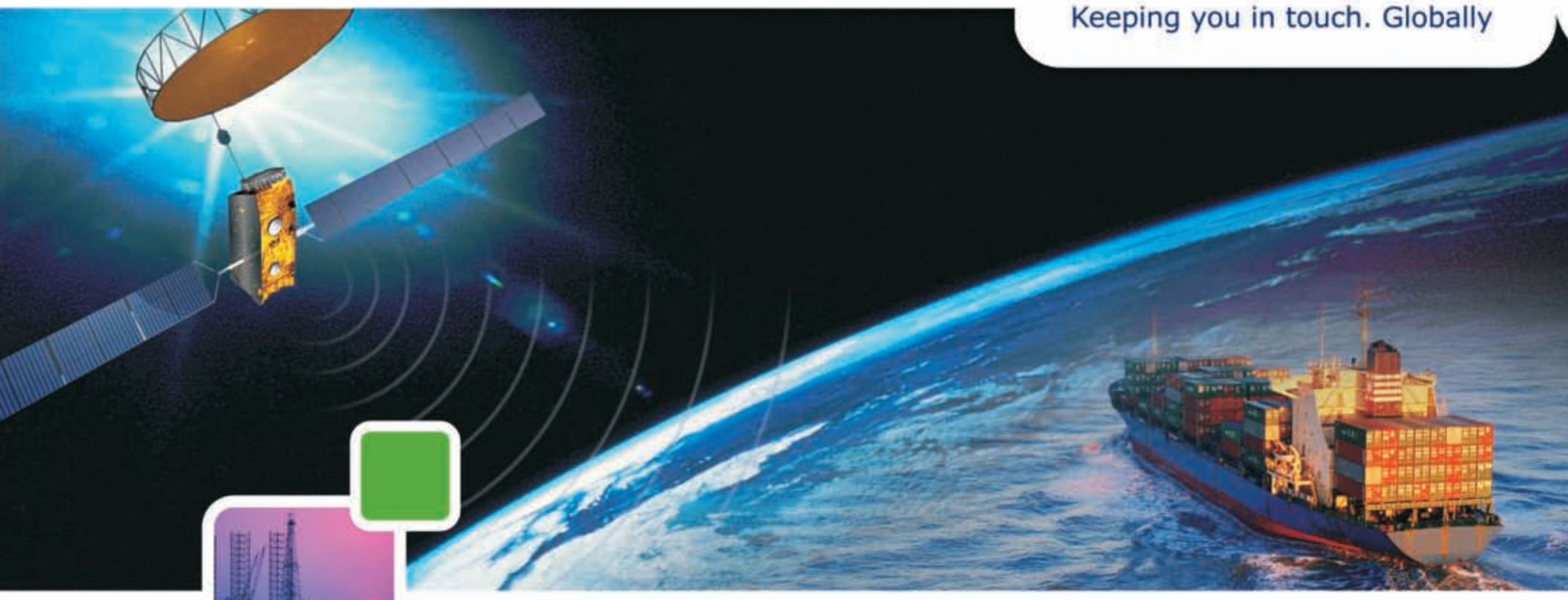

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Name change for Satcom Group

www.onehorizongroup.com

SatCom Group has announced that it is to change its name to One Horizon Group, reflecting the company's focus on its flagship Horizon communications platform.

One Horizon Group Plc is a holding company with subsidiaries in the satellite communications and telecommunication sectors. The group offers a range of mobile and fixed satellite products and has expanded into IP (Internet Protocol) based telephony systems through the launch of the Horizon product portfolio in 2010.

Horizon offers VPN VoIP solution over satellite which aim to minimise the use of data involved. VoIP calling can be performed from as low as 2kbps, while the application also integrates optimised data applications for internet surfing, e-mail, and instant messaging.

Horizon is suitable for deployment over most types of satellite communications systems.

"Aligning our name with our core product more accurately represents the transformation of our business as we enter new global communications markets with the Horizon suite of products," said Sandy Johnson, COO of One Horizon Group.

Satcom products launched

www.gmpcs-us.com
www.globalmarinenet.com

Global Marine Networks and GMPCS Personal Communications have announced the availability of two new products, the Speedmail satellite e-mail service and 'The Box', a satellite router with access control used to manage satellite airtime.

GMPCS Speedmail is an e-mail service for use with both handheld satellite phones and broadband satellite services such as Inmarsat FleetBroadband and Iridium OpenPort.

The companies say that it offers up to 15 times faster e-mail and data transfer speed than a standard connection, through compression and custom server protocols.

A filtering system lets users preview headers to prevent unnecessary downloads or downloads of large files, and functionality to automatically pick up dropped satellite transfers where they left off is also included.

Satellite SMS notification of new e-mails (via Iridium or Globalstar) is also available, as well as virus scanning, spam filtering, and full DES/PGP encryption. The system works with any e-mail program, web mail, or the included Mozilla Thunderbird and iScribe e-mail clients.

"GMPCS Speedmail is powered by the Global Marine Networks XGate service. XGate is a proven service designed specifically for use over satellite phones, so it is ideally suited to meet the demands of GMPCS customers," said Jon Klein, VP and general manager of GMPCS.

'The Box' is a satellite router with access control and data compression which the companies say can help users provide controlled crew access to data services and simplify satcoms installations.

Usage controls can limit users by time, megabytes, or web site white/black listing, while firewall filtering, by MAC or TCP/IP address and/or port number, can also be used to provide even tighter control.

A failover service redirects data feeds between different installed satellite networks as required, while shared onboard caching can reduce the traffic generated by popular websites visited onboard.

The router works with most satellite data service providers including Inmarsat, Iridium, Globalstar, Thuraya, and VSAT systems, or any IP-based connection, and at all data rates at or above 2.4 kbps.

The companies say however that 'The Box' has been specifically designed for the new generation of satellite data systems such as Inmarsat FleetBroadband and Iridium OpenPort.

New VSAT service from Vizada

www.vizada.com

Vizada has launched a new satellite communications service called Pharostar, a proprietary Ku-band VSAT system for the maritime market.

Based on iDirect technology, the service provides standard IP data speeds of 1024 kbps for applications such as internet, e-mail and VoIP.

Vizada says that the connectivity available emulates that of corporate networks, allowing for unlimited data transfer as an 'always on' service.

As with all the company's standard base connectivity services, Pharostar will be offered with one or a range of Vizada Solutions communications applications to improve data transfer, increase security, and help control communications costs.

Pharostar joins Inmarsat FleetBroadband and Iridium OpenPort as part of Vizada's maritime broadband portfolio, which aims to offer customers a variety of choices in terms of data connectivity speeds, coverage, and terminal and antenna size.

Vizada will also be offering Pharostar in bundled packages with Inmarsat Fleet Broadband or Iridium OpenPort, to offer redundancy and satellite connectivity when outside Ku-band coverage areas.

"Pharostar enables us to offer our service providers an exclusive competitive advantage by arming them with a high-performance broadband communications service supported by industry leading solutions and technical expertise," said Erik Ceuppens, CEO Vizada EMEA & Asia.

Details of BP VSAT deal confirmed

www.harris.com

HarrisCapRock Communications has released details of the VSAT contract it agreed with oil giant BP last year, revealing that it has signed a 39-month contract to deploy its SeaAccess solution onboard BP's tanker fleet.

This fleet consists of more than 50 tankers travelling on a worldwide basis, with BP having been one of the first operators in the merchant maritime sector to commit to a full fleet-wide VSAT installation project when it began installing C-band technology from another provider in 2006.

These vessels will now switch to the HarrisCaprock system, which will be used for corporate office communications, enabling ship captains to send real-time reports on vessel operations, logistics and routes, as well as crew welfare services, specifically supporting the crew's heavy telephone traffic.

Prior to the agreement of the contract HarrisCapRock notes that BP conducted extensive testing at the HarrisCapRock UK facility based in Aberdeen.

During the tests the HarrisCapRock engineering team developed a time division multiple access (TDMA) demonstration with test circuits for BP to conduct real-time data transfers, make telephone calls and see first-hand the system's wide area network (WAN) optimisation service.

'Securing BP Shipping's fleet communications further builds upon the strong relationship we've developed with BP' – Peter Shaper, HarrisCapRock Communications

"Securing BP Shipping's fleet communications further builds upon the strong relationship we've developed with BP," said Peter Shaper, group president, Harris CapRock Communications.

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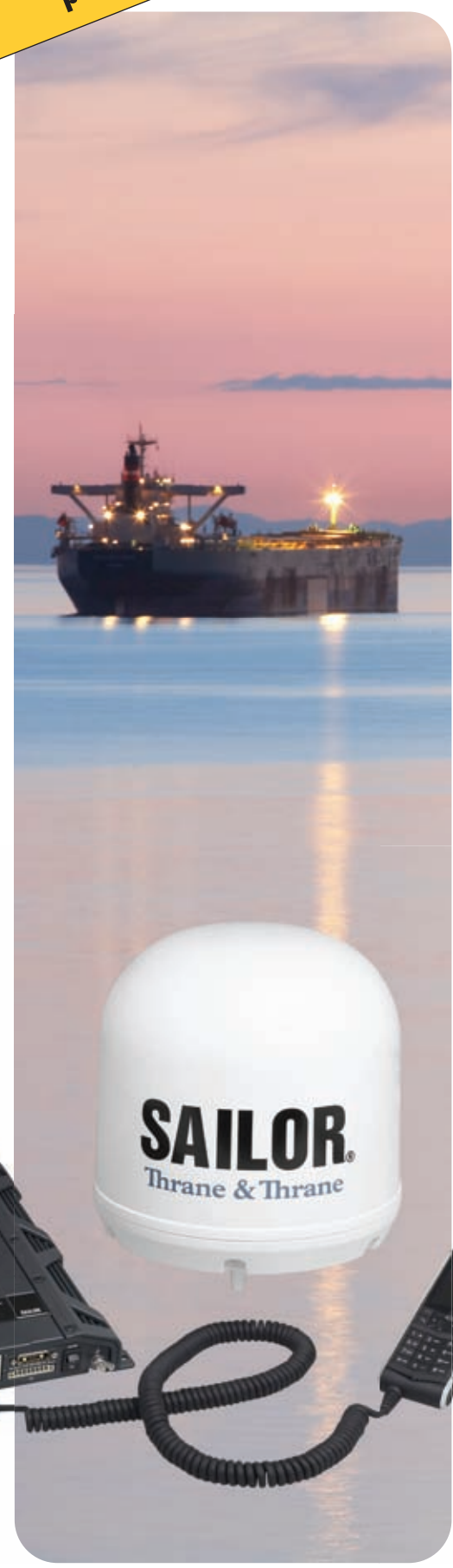

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The broadband ocean – dip your toes or dive straight in?

Despite the apparent pace of the move towards broadband, the legacy communications market has needs which hardware and software vendors must address to help them make the transition,
writes Trevor Whitworth, Telaurus Communications

No-one would contest that the trend towards broadband maritime communications is strengthening – and picking up speed. Indeed, to judge by the coverage in mainstream shipping industry publications, broadband has already become ubiquitous.

Now that Inmarsat has itself decided to build and launch a VSAT network, shipowners can look forward to an era of ever more powerful communications.

But this era, welcome though it is, comes with caveats. Entry-level broadband products, Inmarsat FleetBroadband (FBB) and Iridium OpenPort (IOP), deliver a step change on what went before but present challenges to buyer and seller alike. VSAT services can still be pricey for a product sometimes stitched together from regional coverage.

If a shipping company's operations demand very high levels of data throughput, then VSAT and the burgeoning mini-VSAT market will have something to suit as an alternative to choosing the new default standard, FBB. For medium to low level throughput, Iridium and Thuraya have proven to be very effective solutions.

But despite the lure of broadband and the reported rise in demand, it could be that the majority of a shipping company's communications are still voice-based. If that's the case then in a few months Inmarsat releases its new FleetPhone, to provide yet another alternative.

And let's not forget there is a mass of legacy systems still out there onboard ship and working well. In fact this market is of a size to suggest that many owners are not yet convinced that the time (or the price) is right for the move to broadband.

Legacy versus BlackBerry

It is very easy to get sucked into the hype about new products, especially those which apparently are being accepted by the market so quickly, and it is also easy to feel pressurised into making a purchase decision when you are being told that a number of legacy services, such as Inmarsat-B, will be removed from service in the next few years. But it's always worth taking a step back and seriously considering your needs and requirements.

Legacy systems don't of course have the same throughput as the newer broadband services and are more expensive to use on a $ per minute or per megabyte (MB) basis, but if the data communication requirement is not large, these older systems can still be perfectly fit for purpose. Perhaps the question should be whether owners can manage the 'modern' communications load with legacy systems and whether there is a case for holding on to them.

If real-time communication with the ship is not considered a priority there are plenty of providers who sell 'store and collect' data services which allow the ship to connect to servers and download mail. Less well known is that it is also possible to provide real-time connectivity over legacy systems, giving BlackBerry-style immediacy to data messaging.

This gives the related benefit of better cost apportionment and billing. Each and every e-mail has its exact cost associated and clearly identified in the invoice, removing many of the problems with batched systems where it can be difficult to identify costs of individual messages.

This is relevant particularly to ship-managers who need to pass on particular communications charges to other parties.

Some shipping companies, who operate modern tonnage trading world-wide, still have very down-to-earth communications needs. They want to make sure that messages are sent and received quickly and efficiently. They want simplicity, stability and reliability.

The ability to trace messages via the web is a useful add-on because of the nature of the data, such as ISM forms which need to be imported into a shore-based system. Others want bespoke software to send schedule updates from vessel to the shore – small pieces of data but vital to the business.

Time to believe the hype?

On paper the attractions of broadband – lower, fixed prices and always-on connectivity – seem obvious. The former is even more important in the current earnings climate, in which owners are having to cope with the double whammy of low charter rates and high fixed costs.

The launch of FBB has created a 'supercycle' of adoption. The falling cost of equipment and connectivity is driving more and more owners to adopt, which in turn drives down the costs, prompting more owners to make the switch.

FBB has the fastest sales growth of any Inmarsat terminal to date and significantly reduced data costs compared to predecessor Inmarsat Fleet.

FBB's per megabyte cost of $9.95 or lower is a quantum leap from Fleet's $23 per MB. FBB voice pricing is $1.00 per minute and much lower prices for both voice and data can be achieved if customers commit to large scale usage plans of 126MB of data and above.

Systems like FBB or IOP can also be easier to install than some of their predecessors – many owners have been able to self-install, perhaps with help from their friendly service provider or reseller – whereas most if not all VSAT systems require a greater degree of planning, craneage and technical assistance to install.

But this cycle and the growth of interest around broadband creates its own challenges. Some of the older generation of ships' masters in particular resent the drive towards the use of modern technology – it's probably fair to say that they are frightened of it – but many of us resist change in one form or another.

Younger officers and more technology-friendly crew members on the other hand hear the word 'broadband' and imagine it as a utopia that will give them access to the internet and everything this promises.

In fact, either the speed or the cost per megabyte often means that this dream fails to become a reality and the crew member is often unable to make use of the technology in the way they would hope.

Owners and managers for their part might resist granting access to the crews. They too, are uncertain as to what granting internet access onboard will mean for them – both in terms of costs and productivity. A crew member, they argue, is paid to work on the ship, not to spend their time surfing or connecting to social networks.

Making the move

Their appetite for switching will also depend upon the owner's approach to ship-shore communications. Some will view broadband communications as a means of doing the same things that they do today but in a substantially faster way. Others are looking to new technologies to enable them to make the ship more of an integrated part of their office and gain added productivity.

What often happens, even in the former case, is that they often don't reap the cost savings they envisage, partly because broadband's inherent use of IP technology adds a data overhead which the older dial-up systems did not normally have.

In the latter case, as with many things in life, the better something works, the more it will be used and as usage of voice and data communications goes up, so does the bill.

Migrating to broadband will mean that the ship effectively becomes part of the world wide web, with all the things - good and bad - that this entails. For the migration to be a success, controls on access are an absolute pre-requisite.

These controls are a combination of 'background functionality' which ensure that the ship's PCs are not downloading updates and making regular but unnecessary contact with land based servers and rather more direct controls, making sure that a crew member is not connecting to the web and streaming video or music via the ship's network.

It can be a great experience to outfit with broadband, but for owners who want to keep control of the process, the crucial element is not just to upgrade hardware but to use software that is designed to work with IP circuits.

As a real-life example, an analysis conducted by Telaurus of a shipowner with a medium-sized fleet who migrated from a dial-up system to broadband showed that although the total number of messages sent and received by their ships remained similar, the amount of data actually transmitted increased by one third - but the overall airtime bill fell by almost 50 per cent when broadband was matched with the right software.

For savings like this to be achievable, the owner's chosen software cannot be an archaic product that has had few changes made to allow broadband connectivity. Tinkering like this is not normally enough to control the IP circuit and so deliver an optimal level of performance.

The choice between using legacy systems and moving to broadband is ultimately about making informed decisions: selecting the service which fits your needs and ensuring that the right software is in place to manage the demands of your business.

If owners can address those questions adequately they are best-placed to judge whether they are getting the most from legacy systems, or are ready to dip their toes in the broadband ocean. DS

Trevor Whitworth is senior vice president of sales & marketing, Telaurus Communications, developer of the se@COMM communications software system. Telaurus, founded in 2000, was acquired by Globecomm Systems in 2009. The company has 40 employees and a network of global agents, and is a Gold Inmarsat Service Provider and an Iridium Distribution Partner.

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Telemetry service to enhance FleetBroadband

Inmarsat is to introduce a new low data rate telemetry service to the FleetBroadband range, which should open up new applications in areas like onboard systems monitoring from shore. Kyle Hurst, Inmarsat, told *Digital Ship* about the evolution of the DTS service

Inmarsat has announced that it is to introduce a new Dynamic Telemetry Service (DTS) to work over its FleetBroadband network, which aims to create a host of additional capabilities in vessel tracking and monitoring, at low cost to the user.

The main idea behind the DTS service, which is scheduled for a full commercial launch in the fourth quarter of 2011, is to add some of the basic tracking functionalities inherent in the company's Inmarsat-C services to FleetBroadband, while taking advantage of the functionality allowed by the new technology to extend the low data rate connectivity to new applications.

The beginning of this project stretches back to 2009, prior to the release of the FleetBroadband 150, as the company began to explore how it might best introduce tracking services to its latest line of satellite systems.

Looking at the options available and the capabilities of the technology they were dealing with, it soon became apparent that the potential application of such a service could reach even further, as Kyle Hurst, Inmarsat maritime market manager and project leader on DTS, notes.

"When we started looking at this in the context of the merchant maritime market we realised that there are numerous types of data that are generated on board a modern merchant vessel that could be suited to a low data rate service," he told us.

"One of the things we realised very early after looking at the position reporting, which was the genesis of the project, was that the position reports are just another type of telemetry – it's a string of data which comes at a certain frequency. There's no reason why we have to have the fields and the data reported only having positional information. It could be anything."

"We knew from our experience with Inmarsat-C that there was generally a lot of people that were interested in that information – but they just didn't have a good way to get it back from the vessel to land."

Development of the service followed steadily from that point in 2009, up to the announcement of the service in 2011, as Inmarsat looked at how such a system might run on its newly launched generation of satellites.

"At that time (in 2009) we still weren't 100 per cent sure if this type of service would actually go ahead, or if it would go across the entire product range – but we wanted to take the new technology and this idea of the low data rate product, put them together, and see what comes out," Mr Hurst explained.

"With a satellite network as complex as the I-4s, sometimes you can have very good capabilities, but when you put it up against the technology you're dealing with sometimes it doesn't mesh together that well, and that actually was the case with the DTS when we first put it with the FB technology."

The I-4 satellites mainly operate a standard IP service, which Mr Hurst notes is very good at short, bursting http and internet-style traffic, but had not been engineered for the constant dribble of information envisioned with DTS.

"It has been an extended process, which has brought us up to today, while we have made sure that we could pass this new data type across the network in the best way possible – best for the customer, best for the network, best for everyone," he said.

"We now believe we have the solution, where we can move the traffic efficiently and get it to the customer in a way that we think is well ahead of anything else that's currently available, but is also as convenient as the legacy systems like Inmarsat-C."

Applications

The DTS system that has been developed is a hardware-based solution, which is not linked to the SIM card used to manage normal FleetBroadband traffic but rather is built in to the above and below deck hardware units.

'Taking this information off the ship and putting it into different systems that are probably best not being on the ship – there is value in that' – Kyle Hurst, Inmarsat

It is expected to be available on the full range of three FleetBroadband terminals, with existing units needing only a firmware upgrade to be able to access the service.

"The current plan, and I think this is pivotal, is that there would be no hardware change involved," said Mr Hurst.

"The equipment is already out there, so we're looking at just doing a firmware upgrade – though that's not a simple thing in itself, as basically every vessel using the service will need to have it applied and we'll need to get that out there as quick as possible."

Ideally Inmarsat would like to be able to apply firmware updates to terminals already installed on ships at sea by sending the data files across the FleetBroadband itself, however Mr Hurst concedes that the logistics of conducting such an operation means that an in-port update is the most likely solution.

"So I think the most likely aspect is that it would probably have to be carried out by an approved technician," he said.

Inmarsat is aiming for the system to be, to a great extent, 'plug and play', in that it should be something that can easily link with standard shipboard technologies.

"There are a lot of systems onboard vessels that output common formats like NMEA and RS-232, and IP-based formats," said Mr Hurst.

"What we're looking at is being able to plug directly into these technologies on an IP-based system, because FleetBroadband is IP based."

"The idea for us is converting whatever is out there to an IP-compatible system, and facilitating getting that information straight to the FB terminal."

Ultimately this should mean that basically any system that can connect to a network can also be connected to the FleetBroadband, and to the shore.

"This would also need to be intelligent-

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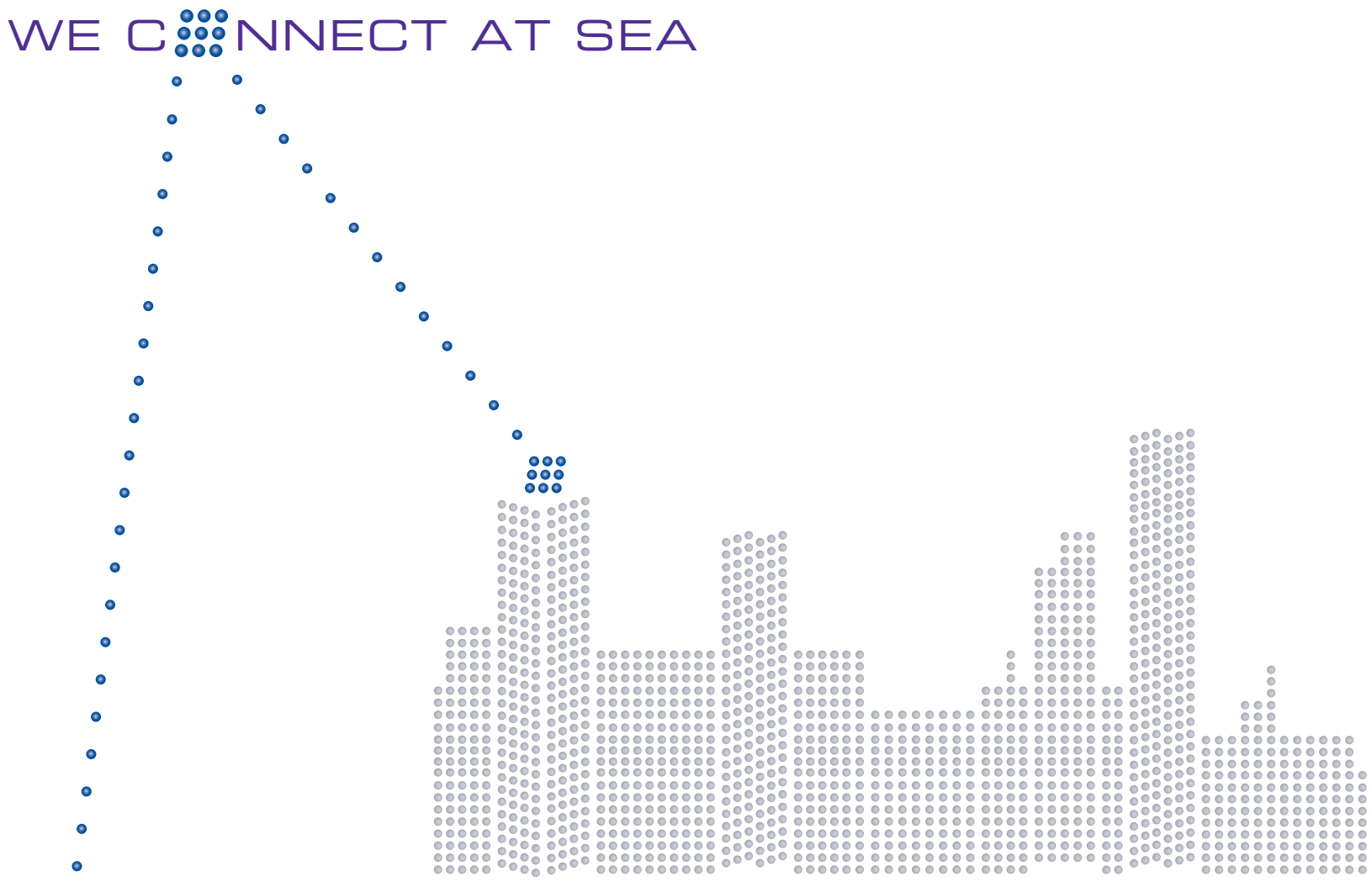

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ly sorted, to a certain level, at the UT (user terminal) side, so we are relying on our UT manufacturers as well to provide part of the service," Mr Hurst notes.

"We understand that once you start plugging numerous systems into your FB terminal there will be a wealth of information coming through."

"Even simple things like engine monitoring or AIS could have a considerable amount of information pouring through, so I think there is a need to have some kind of mechanism to decide what you want to go over the network, and what you don't really need to look at right now."

Once the technology is in place Mr Hurst envisages a wide number of areas where the technology could be applied to improve vessel operations.

"There are a lot of engine monitoring systems right now that output a lot of telemetry based data to the ship itself, but in a lot of cases the data isn't really going anywhere, some of it is being displayed and being read every so often but there's a lot that is not being utilised," he said.

"Then there are things like systems management for navigation systems or bridge systems too, there are integrated bridge systems where you can have everything connected to a centralised box which can give you a reading of the health of all the components, such as the radar, your plotter, all of these things."

"You can also have a mix of all of these – why just have the position report or a systems report, why not mix them up together? It just means extra characters, and once people can generate it at one end and understand it at the other end there isn't really any limitation on what can be sent across the network."

Being able to transmit this telemetry data can also allow those on board to get better advice from shore-based experts when it comes to maintaining and running complicated machinery on the vessel.

"Taking this information off the ship and putting it into different systems that are probably best not being on the ship, for long term analysis, monitoring quality control, or even pollution monitoring – there is value in that," said Mr Hurst.

"Preventive maintenance is a big thing these days too, and you can have engineers onboard looking at this information but they may not be the best people to do so."

"Maybe it might be better for this information to be going to the engine manufacturer where they can look at a larger dataset and maybe see these anomalies before a ship based engineer because they have more information coming in and more time to analyse it."

The 'dynamic' aspect of DTS is also something that differentiates the service from the simple transmission capabilities of a service like Inmarsat-C. In essence it allows the user to change the type of telemetry data that is being received as they require, so if there is an issue with one particular system further data from that equipment could be requested.

"So you might say 'I don't really need to know about the water levels in the bilge right now, but what I do need to know about is the temperature in the exhaust pyro because it seems to be a bit strange'," said Mr Hurst.

"As the situation changes with the information you're receiving from this remote asset you can refine the information that you require to give you a better idea of the condition of the system you want to look at. So it becomes rather adaptive – that's another big change from Inmarsat-C."

The technology included will be 'request-response' based, meaning that you can ask the terminal for something and, as long as it's available, that data will come back to you.

"The other scenario we're looking at is UT generated information, where you work with the alarms onboard a vessel," said Mr Hurst.

"You may not be sending information all the time, or sending a certain level of information periodically, but you would have the system set up so that when certain alarms went off those alarms would be forwarded to the office on shore."

Pricing

As with any communications service, the first question on most people's lips tends to be 'how much?' Though Inmarsat cannot offer much in the way of details on this aspect of the service at this time, current plans do suggest that the service will have a fixed cost element.

"The subscription based service that we are looking at right now means that it should have very much fixed costs, which is something we think the industry will respond to," said Mr Hurst.

"It's very early to talk about price, we've only just got approval on the service, but I think generally we're probably looking at something that will be slightly above Inmarsat-C, but with capabilities way, way beyond what Inmarsat-C could handle."

The cost of the DTS service will not be added to an existing FleetBroadband airtime contract, but will rather be treated as a completely separate service, with separate billing.

"We understand that, much like the Inmarsat-C model, that the customers for this may not be the same companies that have an airtime contract with their FleetBroadband," said Mr Hurst.

"For example, you have the shipping company having an airtime contract with their FleetBroadband for their data communications and voice communications, but it may well be an engine manufacturer who's looking at maintaining the engines as part of a maintenance contract that's monitoring the engines."

"The shipping company doesn't necessarily want to be billed for a service that's being used by an engine manufacturer. So it will be completely separate billing."

With these plans all in place, Inmarsat's work with its partners is now set to begin in earnest, to bring about the necessary changes that will make the DTS service possible on every FleetBroadband enabled ship.

If all goes as expected, by the end of this year huge amounts of new data about the operation of onboard systems could be pouring back to shore from the global fleet for analysis – an interesting prospect indeed. DS

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Shipping App tops iPhone chart

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Ship It!, a shipping-themed iPhone game from e-learning company Coracle, has topped the Games/Educational charts in the Apple App Store in 10 countries (France, Portugal, Hong Kong, Taiwan, Poland, Turkey, Hungary, Czech Republic, Guatemala and Argentina).

Coracle says that the game was also ranked in the top 10 in over 55 countries.

Want to learn about shipping? There's an app for that

Ship It! helps players to understand four basic types of ships, their related cargo, and relative loading times. The ultimate goal is to manage all ships and cargo in the most efficient manner.

"This game is a great way to promote the maritime industry whilst demonstrating that we can use this platform to build simulated training modules," said James Tweed, founder of Coracle.

Coracle has produced a number of other maritime related apps, including a Maritime Glossary, a Ports Information app and the 'Maritime Twitter Top40'. The company says that it will be introducing more apps in the near future.

Deltamarin contracted for ship efficiency project

www.deltamarin.com

The European Maritime Safety Agency (EMSA) has awarded a contract to Deltamarin for a study on tests and trials of the Energy Efficiency Design Index (EEDI), as developed by IMO.

The main objective of the contract is to provide EMSA with a technical study on the EEDI, in order to refine the EEDI application for certain categories of RoRo ships (volume and weight carriers) and to identify the potential application of the EEDI or any alternative method to improve energy efficiency of purpose built vessels from a technical and design point of view.

The Energy Efficiency Design Index (EEDI) is an IMO-agreed initiative on the development of a CO2 design index for new ships. This index separates technical and design based aspects from operational and commercial aspects.

The core of the indexing formula is given by the ratio between environmental burden (i.e. CO2 emissions) and work performed.

It is hoped that the EEDI, if applied to conventional designs for propelled ships, will contribute in the longer term to the global effort to reduce CO2 emissions from the shipping sector as new ships built in accordance with the EEDI enter into operation.

Deltamarin's commission includes, firstly, the refinement of the EEDI formula for RoRo (volume and weight carriers) and RoPax vessels. In this context Deltamarin shall assess the current baselines approach for volume and weight carriers.

If necessary, a refinement / adjustment of the baselines for the volume and weight carriers shall be proposed.

Deltamarin shall also identify possible correction factors to be included in the EEDI formula for RoRo and RoPax vessels.

In case no correction factor is suitable, Deltamarin shall develop an alternative approach to address Energy Efficiency for the applicable vessel types, arrange test/trials of the proposed approach, and draw conclusions on its suitability.

The study will also include a comparative analysis looking at the GHG emission reduction potential of the current EEDI approach in relation to the potential new proposal.

Secondly, Deltamarin shall develop a framework to address the energy efficiency of purpose built vessels and specialised ships.

Based on representative samples establishing baselines for these vessel categories, requirements for any additional correction factors will be identified. The main goal will be to develop methods on how to improve the energy efficiency of these vessels at the design phase.

Grangemouth Refinery goes live with eDocs

www.essdocs.com

Electronic documents company Electronic Shipping Solutions (ESS) reports that INEOS has adopted its CargoDocs Terminal Services system on oil products shipments form the Grangemouth Refinery.

Working with an ESS project team, INEOS Grangemouth issued its first operational electronic set of documents, which included an electronic bill of lading, on January 16, 2011 when a cargo of vacuum gasoil was shipped on board the 14,830 dwt chemical/product tanker Ternholm, operated by Tärntank Ship Management AB.

"We were introduced to CargoDocs by Brostrom, our pool operators," said Ann Olofsson, deputy managing director, Tärntank Rederi AB.

"We have found the service quick and easy to use and even getting the Master trained while he was at sea proved to be a simple process. Documentation processes at Grangemouth have never been easier and we look forward to the increased industry adoption of eDocs."

For the first time at the terminal, the set of electronic documents included documents created and electronically signed by an independent inspector.

For this shipment, SGS United Kingdom Limited created and electronically signed the Vessel Experience Factor, Ullage Report, Sample Receipt and Tank Inspection Report, which were included in the set of eDocs issued for the shipment.

SGS has an embedded documentation team at INEOS Grangemouth responsible for processing shipping documents, which has been assisted by ESS in the move to electronic documents through the provision of training and support.

All other major inspectors at Grangemouth, including Saybolt, Intertek Caleb Brett and Inspectorate were also involved in testing at Grangemouth, and are already set up to use electronic documents operationally when required by shippers.

INEOS became the first company to use ESS Terminal Services in the UK when it went live with CargoDocs at its Finnart Ocean Terminal in 2010. Having laid the groundwork there, the roll-out of CargoDocs at Grangemouth was completed in a twelve-week timeframe.

"This is another milestone for INEOS in our plans to move towards greater use of eDocs across our terminals," said Tony Pollock, INEOS marine assurance manager.

"ESS CargoDocs offer a particular advantage for ships calling at Grangemouth, as the dock is tidal. Using eDocs has the potential to save up to two hours on documentation processes post loading giving us faster vessel turnaround. This allows vessels to more easily achieve tidally restricted sailing schedules."

ESS notes that the first Grangemouth transaction using the system demonstrated how electronic documents could help to improve efficiency at the terminal.

During that particular shipment, the Master found a minor data discrepancy in the initial draft documents. However, using the electronic system this discrepancy was able to be communicated, fixed and accepted by the Master within minutes, without any party needing to leave or attend the vessel.

Oxford Aviation Academy (OAA) has released version 12 of its MaritimeCrew Resource Management (MCRM) learning materials. The update is available under licence and consists of a 17 module interactive computer based training (CBT) program with support materials for instructors and students.

Veson Nautical has opened a new office in Oslo, Norway, and will also relocate its corporate headquarters to a larger space in Boston, USA, in May of this year. The new office in Oslo is led by Tomas Hozman, commercial director, Europe and Tone Ekman, senior consultant.

Krill Systems has appointed Brian Staton as vice president of world-wide sales. Mr Staton has 26 years of experience as a sales and marketing executive with five major marine electronic brands, was a former president of **Simrad USA**, and most recently worked as business development manager for **Ship Equip**.

Brian Staton, new vice president of world-wide sales at Krill Systems

PortVision has appointed James Perduto as director of transportation and government business development. Based in New York, Mr Perduto previously worked with maritime software company **Stelvio**, on its ShipDecision product.

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BASS and SIS end turbulent relationship

www.sismarine.com
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After years of disagreements and legal wrangles, Norwegian software companies BASS and Star Information Systems (SIS) have parted ways after the companies confirmed that BASS has completed the sale of its 34 per cent stake in SIS - with statements on both sides suggesting that the relationship between the parties had become particularly strained.

BASS says that it will use the financial resources it has freed up after the sale to invest in its own business by pursuing new markets and developing new products, and has claimed that "SIS' poor performance and its need for major funding over a long period of time to upgrade its products and technology platform" was one of the reasons behind the move.

BASS CEO, Per Steinar Upsaker, said that BASS had "lost confidence in SIS. When they asked shareholders for additional funding (in June), we saw this as an opportunity to sell out rather than put more money into a business with highly uncertain returns and no exit strategy."

"The price we received was satisfactory, based on the limited financial information we received from the company."

Meanwhile, a statement from SIS on the sale has welcomed the move as ending "a direct conflict of interests" and giving the company "full control over our own destiny."

According to SIS CEO, Per Anders Koien, "the BASS shareholding (has) been a hindrance to our corporate activities recently."

"Now we are in a position to advance to the next stage of our development without further interference."

This unusual situation whereby BASS held a shareholding in a competing software provider came about after BASS' original parent company, Barber International, purchased the 34 per cent stake in SIS in 1999, in the hope that the two companies could benefit from working together.

'The BASS shareholding has been a hindrance to our corporate activities recently' – Per Anders Koien, SIS

However, these plans did not quite work out, and a co-operation agreement between BASS and SIS was terminated in 2003.

This was followed by a further complication in 2005 when the management of BASS completed a management buy out of the BASS business unit from Barber - a purchase which also included the stake in SIS. This deal was completed around the same time that a legal battle between the two companies regarding intellectual property rights was resolved in an out-of-court settlement.

Then, in 2007, BASS made a formal bid to acquire the rest of the shares of SIS - an offer that was firmly rejected by the other SIS shareholders.

However, with the sale of the BASS stake in SIS now completed this complicated 10-year relationship has finally come to an end - a move that looks to be in the best interests of all involved.

New companies sign up for MarineLink

www.edbergogroup.com

EDB ErgoGroup reports that four new maritime clients have signed up to its MarineLink eCommerce service.

Fred Olsen Marine Services AS, Jo Tankers AS, Bergshav Management AS and Wilhelmsen Marine Services AS will use the service to manage electronic purchasing processes such as handling inquiries, quotes, orders and order confirmations.

The system also includes various tools for analysis and creation of statistics, as well as functionality for reporting and delivery of KPIs.

The MarineLink service has incorporated the MTS (Marine Transaction Services) eCommerce service operated by Wilhelmsen Ships Service, which EDB ErgoGroup took control of last year.

As a result EDB ErgoGroup now has Wilhelmsen Ships Service as a large marine supplier client, and is offering electronic purchasing services to the shipping market and marine suppliers as part of its broader eCommerce strategy.

"Most businesses are international, and the shipping industry is a typical industry that is highly dependent of effective integrated value chains," said Terje Mjøs, CEO of EDB ErgoGroup.

"By providing the MarineLink service, EDB ErgoGroup takes a worldwide responsibility to support our home market customers in their international business."

EDB ErgoGroup says that more than 2,500 vessels are now trading through MarineLink.

Design software upgrade for Incat Crowther

www.autoship.com

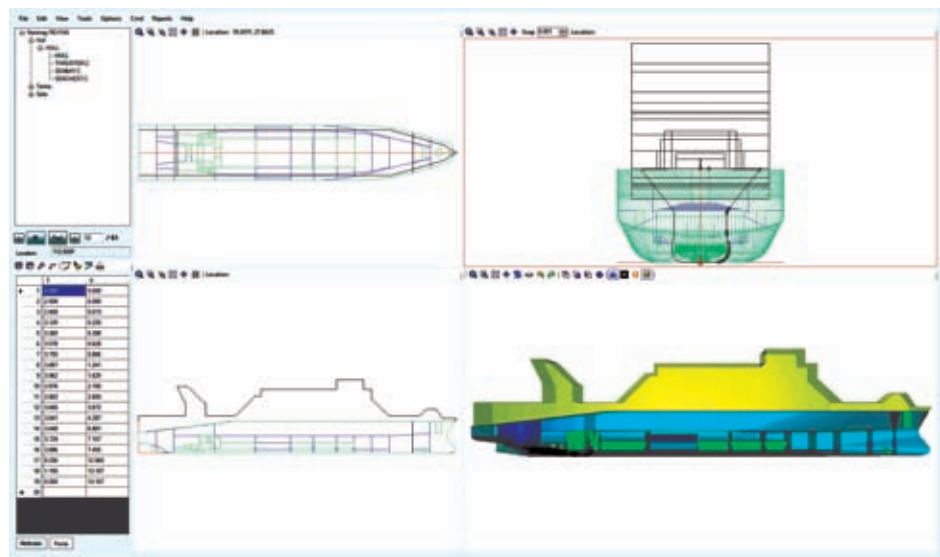
Incat Crowther USA, a passenger vessel design company, has installed a number of upgrades to its Autohydro Pro hydrostatics and stability software, supplied by Autoship Systems Corporation (ASC) of Canada.

"Autoship Systems has always been from my experience at the cutting edge of new technology for hydrostatics and stability software programs," said Grant Pecoraro, Incat Crowther naval architect.

"When I haven't been able to figure out a routine or a run file, I've always found their Autohydro Technical Manager to be a wizard at solving my issues."

Autohydro 6.4 includes an update aimed to allow users to account for the SOLAS 2009 probabilistic rules for cargo and passenger vessels, and a soon to be released version 6.5 will add an assessment tool on intermediate stages of flooding as per the probabilistic rules.

Modelmaker functionality will additionally be enabled to allow the user to graphically see penetrations and to print penetration calculations, with this tool to benefit from a new and improved interface. Other features in the latest software versions include an autoballast feature, a new reporting tool, an update to free-surface-moment functionality, automatic import of IGES models, export support for bulkhead definitions for Autohydro to use in its calculations, and compatibility with Windows 7.



The Modelmaker allows users to graphically see penetrations and print penetration calculations

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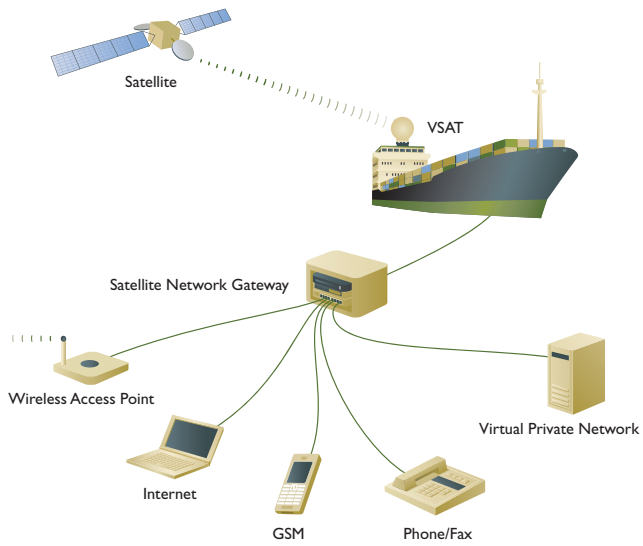

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P&O ferry installs Marine Software

www.marinesoftware.co.uk

Marine Software has secured a contract with P&O Ferries for the supply of integrated ship management software for its latest 49,000 grt newbuild vessel 'Spirit of Britain', which has entered service on the Dover-Calais route.

This contract covers planned maintenance, stock control, procurement and safety management requirements, between both the vessel and central office systems.

P&O's Spirit of Britain is to be installed with the integrated ship management software

P&O Ferries also ordered an integrated barcode solution for the MSK Spare Parts system, to enable quick stock checks and stock issuing.

During the vessel build at STX Europe's Rauma Shipyard, Marine Software was contracted to deliver a fully configured database covering all main machinery, safety equipment and Lloyds Register Class items.

A final database commissioning visit took place in Dover during berthing trials, where a successful handover of all systems took place. This preparatory work helped the crew to immediately be able to use the system upon final delivery.

As P&O Ferries' CODA finance system already accepts Accruals from Marine Software's OPS fleet procurement system, all 'Spirit of Britain' accruals will be integrated through the existing finance interface.

A sister vessel, the 'Spirit of France', is due to enter service in September 2011, and will be fully equipped with the same software solution.

Marine Software says it is now entering its fifth year of supplying fleet software systems for P&O Ferries, after successfully being awarded an 18 ship contract for centralising ship management operations back in 2005.

SpecTec begins Prestige project

www.spectec.net

SpecTec reports that its USA division has recently agreed a contract to perform a software consulting project for Prestige Cruise Holdings, parent company of the Oceania Cruises and Regent Seven Seas Cruise brands.

The project will include type level migration, a service SpecTec provides to organise data and eliminate any repeated elements from the system, as well as a complete ship inventory for the group's combined fleet of seven vessels.

SFI Coding (Group System), a classification system for the maritime and offshore industry, will be used in this regard, which provides a technical and financial functional subdivision of ship information.

The project will also include an upgrade of the company's software system to AMOS Business Suite version 9.1, which introduces a range of additional functionality over previous versions.

The project has already begun, with the first task being a 'ship check' of each vessel to estimate the time required to perform the full physical inventory of all spares onboard.

Mespas expands offering

www.mespas.com

Mespas has announced the release of version 5.13 of its fleet management software mespasR5, with approximately 80 new changes making the upgrade the largest ever released by the company.

The release of this new software version is supplemented by the introduction of what the company calls the 'Mespas Cube'.

The Mespas Cube is an offshore server installed aboard the ship which acts as the hub between the vessel's PCs and the central database ashore.

With the Cube, the software can be run on multiple PCs on board the ship, without impinging on the applications' ability to synchronise and work with the central database ashore.

The company has also introduced a new Mespas Reporting Engine, used to run overviews, comparisons and analyses on single vessels or the entire fleet.

In other news, Mespas has announced that Tito Vinci has joined the company as area sales manager, responsible for sales activities predominantly in Southern Europe and the Middle East.

STX OSV deploys AVEVA

www.aveva.com

AVEVA has announced that STX OSV has signed an agreement to purchase the full AVEVA Marine solution suite, which will be deployed for integrated hull and outfitting design.

STX OSV operates nine shipbuilding facilities, including five in Norway, two in Romania, one in Brazil and one in Vietnam.

This new long-term agreement covers the full AVEVA Marine solution, supporting efficient engineering and design processes from early / basic design, through detailed hull and outfitting design, to the creation of manufacturing data and documents.

The system will be used by up to 300 concurrent users across all of the group's nine shipyards.

"We required a suite of products that provided seamless integration between disciplines, particularly Hull and Outfitting in the whole value chain," said Stig Sandanger Riise, senior vice president technology & engineering at STX OSV.

"We selected AVEVA Marine to provide this integration and they also offer us an advanced database capability allowing STX to accommodate ship buyers' requests at short notice and enabling changes very close to production start."

"Equally important, AVEVA Global supports concurrent engineering across all of our nine yards in Norway, Romania, Brazil and Vietnam."

STX has already begun the first project using AVEVA Marine with the design of a Platform Supply Vessel and two sister ships.

STX has already used the software system as part of a PSV design project

Improving efficiency in 2011 - FLAGSHIP

The EU backed FLAGSHIP project has introduced a number of new technological solutions since the beginning of 2011 that should assist shipping companies in improving the efficiency of vessel operations, covering areas like engine monitoring, hull condition forecasting, and terminal logistics

FLAGSHIP, the Pan-European maritime transport project backed by the EU, has introduced a number of new technology-based tools which aim to improve safety and efficiency in ship operations, while also reducing the impact of vessel transport on the environment.

The aim of the FLAGSHIP project is to create and develop new technological solutions that will assist vessel operators and other relevant stakeholders in monitoring the status of seagoing vessels, highlighting inefficiencies and supporting crews in improving onboard operations.

The emphasis of the project is on onboard systems and procedures, ship management systems on shore, the impact of new technology, effective and efficient communication interfaces, and the impact of various standards and regulations.

The 53-month project is partially funded by European Union contributions, and features more than 40 partner organisations including shipping companies, shipyards, universities and various technology providers.

This partnership is overseen by the European Community Shipowners' Associations (ECSA).

As Herman de Meester, coordinator of FLAGSHIP, describes it, "The vision of FLAGSHIP is to create the mechanism by which the expertise of all the required actors can be brought together in real time, independently of their location."

"[This provides the required information] to the right people, in the right format, at the right time and incorporating the highest level of knowledge, so that they can better manage all the questions which confront a ship operator."

Ship monitoring

One of the new tools announced by the project for 2011 is a monitoring system that applies the Technical Condition Indexing scheme (TCI) to help a ship's crew monitor and improve the technical condition of vessel engines.

According to the project partners, the deployment of the FLAGSHIP-TCI system can help a ship's crew to enhance voyage safety, lower fuel consumption and reduce the emission of air pollutants.

FLAGSHIP says that use of the TCI system can promote proper engine conditioning while reducing maintenance and offhire costs.

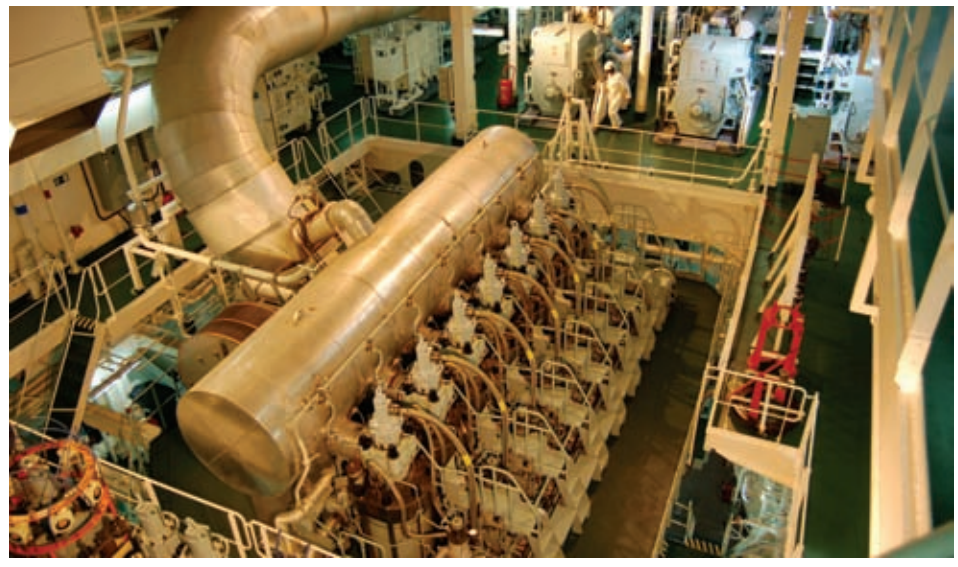
Integrated with an analysis package based onshore, the on-board system generates a set of performance indicators based on reference values, historical performance and benchmarks.

The ship's superintendent and crew receive a report in which problems are detected and highlighted via a high level traffic light showing green, yellow or red depending on the severity of the issue.

The user can also access an on-line version of the report to investigate the precise data that caused the warning.

FLAGSHIP's application of the TCI concept utilises satellite communication and the internet to allow data to be collated, processed and distributed to both ship and shore-based personnel. The system analyses the data and presents it in a format that can be acted upon by either a shore-based superintendent or a ship's crew at sea.

Ornulf Jan Rodseth, research director at FLAGSHIP partner MARINTEK, commented: "FLAGSHIP's application of the TCI concept on critical ship systems is an excellent example of information and communication technology being harnessed to aid early detection of problems, efficient diagnosis and timely repair."



One software tool created by FLAGSHIP aims to help crews in monitoring vessel engines

"We have seen fuel savings of up to 5 per cent as a direct result of the use of the TCI-system, which underlines the importance of R&D projects such as FLAGSHIP in making ship transport even more environmentally friendly."

The FLAGSHIP–TCI project was led by MARINTEK in Norway and was supported, delivered and trialled in conjunction with NTNU in Norway, Teekay Shipping, and Rolls Royce in the UK; Danaos Shipping Co Ltd and ASME of Greece; Containerships in Finland and RINA in Italy.

Hull management

The other new tool recently released by the FLAGSHIP project is a software system that can forecast the condition of a ship's hull over time, which it says should help improve the efficacy of surveys and reduce the amount of time a ship is out of service.

The software tool that has been developed, FLAGSHIP-HCA (Hull Condition Assessment), is designed to accurately predict the condition of a vessel's structure, coating and components, enabling ship owners and operators to schedule maintenance in a more efficient manner and thereby reduce maintenance costs.

The principal economic objectives of FLAGSHIP-HCA are to extend the life of the existing fleet of tankers and bulk carriers by up to five years, with a 10 per cent to 20 per cent reduction in service repair costs for ships throughout their life-cycle.

In this respect, a primary concern for ship owners and Class societies is that of corrosion of the ship's structure. As such, this is the primary focus of FLAGSHIP-HCA.

"Management of corrosion is being addressed through separate tools that meet the specific needs of the ship owner and the Class Society," said Ben Hodgson, project manager at BMT Group and FLAGSHIP-HCA sub project leader.

"The enhanced data exchange that these two tools will promote between Class and ship owner will quite possibly lead to the development of enhanced Class rules which will ultimately lead to better maintained, more available and safer ships."

FLAGSHIP-HCA includes three primary tools which enable the ship owner and Class to exchange hull data in real time, based on crew inspections and maintenance work as well as periodic measurement campaigns.

Firstly, the toolset includes a Survey Advisor Tool (SAT) which advises surveyors where individual ships are most vulnerable and therefore where they should concentrate their investigations.

Secondly, the Hull Health Programme Advisor (HHA) optimises the survey and maintenance programme taking in to consideration the vessel's work schedule and the predicted structural integrity of the vessel.

Finally, the Corrosion Parameter Prediction Tool takes the results of a survey or set of surveys and updates a database with corrosion parameters associated with every aspect of the ship's hull, based on observed rules and results.

Mr de Meester, coordinator of Flagship, commented that, with the HCA the project has managed to make significant steps forward in a number of its target areas.

"FLAGSHIP has pursued the twin objectives of reducing still further both risk and the environmental impact of the world's commercial fleet whilst generating the opportunity for real commercial benefits," he said.

"FLAGSHIP-HCA is a tangible example of the maritime industry collaborating to improve performance and efficiency in everyone's best interest."

The FLAGSHIP–HCA project was led by the BMT Group in the UK and was supported, delivered and trialled in conjunction with MARINTEK of Norway; Bureau Veritas and Sirehna of France, Germanischer Lloyd of Germany and PORTLINE - Transportes Marítimos Internacionais, of Portugal.

Terminal efficiency

The third FLAGSHIP innovation successfully implemented this year is a real-time optimisation system targeting congestion in container terminals, the first of its kind according to the project partners.

The system, known as FLAGSHIP-RTS, was trialled at the Port of Valencia and is used to manage transport resources, container repositioning movements and inventory levels simultaneously, using a real time scheduling model.

FLAGSHIP says that this allows the terminal operation to be re-optimised dynamically throughout the day enabling both air pollution and congestion to be significantly reduced, as well as reducing costs for logistics operators and customers.

FLAGSHIP-RTS has been designed and developed as a management tool for terminal operators, freight forwarders, ship operators and container logistics providers.

Led by MJC² Limited in the UK, FLAGSHIP–RTS was supported, delivered and trialled in conjunction with five Spanish organisations including the Port Authority of Valencia (Spain); China Shipping (Spain) Agency; Ingenieria de Sistemas para la Defensa de España S.A SA; Spanish Depot Service , S.A and Trans-Base Soler, S.L.

Trialled with China Shipping (one of the FLAGSHIP project partners) at the Port of Valencia the project reports that reduction in wasted container handling operations in the terminal improved efficiency and led to less congestion (and consequently increased safety).

Trucks and containers covered less 'empty mileage', leading to lower CO2 emissions and improving the effective capacity of haulage fleets; reducing both their operating costs and their impact on the environment.

FLAGSHIP–RTS also had a positive impact on the area surrounding the terminal reducing noise pollution, easing congestion and speeding up road traffic in the terminal vicinity.

Julian Stephens, Technical Development Manager at MJC² said: "The system has shown that it is capable of reducing wasted repositioning movements by up to 25 per cent while saving 10-20 per cent of transport costs through improved planning and faster response times."

"Furthermore, the project has enhanced business efficiency as well as the quality of life for those living and working in the area." DS

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Saving time and money with electronic purchasing

The number of shipping companies using electronic purchasing services is continuing to expand, and with a growing number of success stories the motivation to introduce the technology grows even stronger. Digital Ship looks at the benefits that Totem Ocean Trailer Express and Crowley Petroleum Services have gained from the move to e-commerce

Though the technology and a range of providers have been around for more than a decade, the introduction of e-commerce and electronic purchasing into the maritime industry has been a slow, though steady process.

However, the last few years have seen growth in this sector increase at an ever more rapid rate, as shipping companies learn from the experiences of early adopters and benefit from the expansion in the numbers of companies connecting to these electronic networks.

As maritime software providers have worked to ease the process of integration of e-commerce applications, shipping companies can more easily calculate some of the ways that online purchasing and communication with trading partners can save them both time and money.

Two shipping companies that have taken the plunge in this regard and moved their purchasing into the digital era are US-based Totem Ocean Trailer Express and Crowley Petroleum Services, who joined ShipServ's trading platform in 2007 and 2008 respectively.

In the few years since the introduction of the technology both companies have realised benefits in areas like cost savings and reduced purchasing administration time, increasing the efficiency of the deployment of their ships and changing the way that they operate on a daily basis.

It is stories like these, and those of the other shipping companies that are beginning to gain a competitive advantage through the application of the technology, that have driven this growth in maritime e-commerce.

Totem Ocean Trailer Express

Totem Ocean Trailer Express (TOTE) is a privately-owned freight and cargo shipping company with four vessels – two are charter vessels, and two are used to operate a twice-weekly service between the Port of Tacoma, Washington and the Port of Anchorage, Alaska.

TOTE's purchasing department is headed by Phil Morrell, vice president marine opera-tions and is run by Lisa Gee, purchasing administrator, who is responsible for the procurement of everything needed to run the vessels, from fuel to nuts, bolts and spare parts, paint, food, bedding, cleaning materials and everything else in between.

Like many other shipping companies, TOTE runs a simple ship-to-shore purchasing process. The individual ship managers are responsible for their ships and budgets, using a purchasing catalogue to make their orders.

On shore, it is Lisa Gee's responsibil¬ity to fulfil orders and execute the purchasing plan to ensure that spend is kept within budget.

"Our goal is always to come in under budget so that we can cover things in an emergency," says Ms Gee.

Requisitions are sent from each vessel to the Port Engineer for approval via their SpecTec AMOS purchasing system. From here, requisitions are sent on to Ms Gee.

It is at this point that the process gets more complicated and work-intensive. In line with TOTE's purchasing policies, Ms Gee is required to get two or more quotes for each order – requiring a lot of communication and a lot of paperwork.

Similarly time consuming is finding alternative suppliers in order to satisfy the two-quote policy, particularly for 'hard to find' parts for older machinery, or local suppliers in remote locations when the charter vessels are abroad.

Communicating with suppliers was previously typically done by fax and e-mail. Re-keying quotes manually into AMOS took up a lot of time and was fraught with potential errors – and for TOTE, saving time is a critical part of cost control, with speed increasingly of the essence in the modern shipping industry.

"The biggest challenge we had was clarity of writing – does the faxed quote say 3 or 8, 5 or 2? I usually had to call up to clarify – a real waste of my time," said Ms Gee.

"Prices are fluctuating a lot more these days. Quotes used to be valid for 60 days or more; today they're good for 14-30 days so it's critical that we find suppliers and get quotes back quickly so we can take advantage of good prices."

New solution

The company wanted to find a way of improving the efficiency of this process, that would help it tackle this volume of work and free up resources to improve cost control and supplier performance.

Mr Morrell, vice president marine opera¬tions, was the first to suggest the ShipServ system to TOTE, having previously had experience with the technology at another shipping company.

So, in February 2007, TOTE began using ShipServ TradeNet – and hasn't looked back since.

Today TOTE uses the e-commerce platform to send out Requests For Quotes (RFQs) and orders, and with the requirement to get two or more quotes for every order that soon turns into a lot of administration to manage.

However, TradeNet is directly integrated with the purchasing system in TOTE's AMOS software package, so everything is handled electronically with no need to send faxes or e-mails and manually re-key data into AMOS.

"Sometimes the orders are over 20 pages long," said Ms Gee. "Not having to manually key the orders into our purchasing system is a real time saver."

As a result of this change in the purchasing process Ms Gee says that she is able to allocate 20 per cent more of her time looking for single 'hard-to-find' items such as parts for older machinery, for which she uses the ShipServ Pages online supplier directory.

"Before we had access to Pages it used to take numerous phone calls around my network of suppliers," she said.

"What used to take several weeks now takes less than a week with Pages. If I need to find an item really quickly I use Pages to identify the suppliers and then call them direct."

Using an electronic system also allows for all of the data generated by the system, which is collected automatically, to be used to create an additional layer of business intelligence, which Ms Gee says is used to help improve supplier management processes.

For example, TOTE uses the Key Performance Indicator (KPI) data in TradeNet when carrying out supplier evaluations. For Ms Gee, the KPIs provide useful evidence of how well suppliers have been performing.

"Occasionally a long-standing supplier will come to me and ask why we aren't doing so much business with them anymore," she said.

"Now I have solid data that tells me that either they weren't responding quickly enough to RFQs or that their pricing's too high."

"As a result of taking the time to do this we've been able to leverage our spend by negotiating better prices. Now some of our suppliers realise that they've got competition we've been able to renegotiate more favourable contracts and framework agreements."

Looking forward, although TOTE doesn't insist that its suppliers use ShipServ, the company is encouraging suppliers to look to connect to the network for orders.

It is also considering extending the use of TradeNet for managing its shore-based facilities' purchasing needs, as well as purchasing for other vessels owned by TOTE's parent company.

"With TradeNet, all it takes is just one extra click of the mouse and it saves me

The purchasing team at TOTE has been able to use the data from the electronic purchasing system to negotiate better prices with suppliers

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looking through reams of paper," said Ms Gee.

"Using TradeNet for even a third of our orders saves us a lot of time. It's less boring too!"

Crowley Petroleum Services

Fellow US operator Crowley Petroleum Services is another company to have joined TOTE on the ShipServ platform, coming online with the system within 18 months of TOTE's introduction of the technology.

Crowley Petroleum Services, which operates 100 petroleum barges and tankers, manages its purchasing with teams in Jacksonville, Florida on the east coast, and on the west coast in Long Beach, California.

Richard O'Malley is purchasing supervisor for the east coast division, supported by nine buyers and a warehouse management team. Together the team manages purchasing for 55 vessels.

Crowley's move to electronic purchasing was based on two major objectives: firstly, to be able to increase the number of vessels without the need to add more people in purchasing; and secondly, to reduce spending by 2 per cent.

Having first seen the ShipServ system at a trade show, Crowley's vice president of procurement was intrigued enough to investigate further, and went to see the system in use at two other shipping companies.

This was followed by a trial of the e-commerce platform, before Crowley signed up for TradeNet in August 2008. The system is now integrated with Crowley's NS5 purchasing system, part of its software package from ABS Nautical Systems.

Requisitions are sent by the ship managers for approval by the port engineers. Approved requisitions are sent on to the buyers who are then tasked to go out to market to find the best deals.

By January 2009 – six months into the implementation – Crowley had already achieved significant success trading electronically, engaging in electronic trades with 46.5 per cent of its 3,900 vendors.

Time savings

One of the main benefits Crowley has seen since moving to electronic purchasing has been an increase in productivity from its purchasing team. With additional visibility into the process, the buyers spend less time chasing up responses from vendors.

"Time is the biggest saving," said Mr O'Malley.

"We have detailed data that tells us that the amount of time we spend per vessel each week has dropped from 9.2 hours to 7.09 hours."

Crowley says it is now able to track this to an even higher level of detail: the time it now takes to convert a requisition to a purchase order has reduced from 33 minutes to 24.1 minutes – minutes that add up over time.

Being more productive has not only meant that the team is able to take on more vessels (currently being added at a rate of three per year), but it means that the team is now more effective.

"Not having to waste time doing things like standing by the fax machine allows us to do other parts of our jobs that were done a bit more haphazardly before," said Mr O'Malley.

Expediting deliveries is also a major part of a buyer's job at Crowley, but with the electronic system releasing time spent previously on manual purchasing activities, the buyers are now able to be more proactive in following up delayed orders and resolving invoice and purchase order mismatches.

This has had an obvious knock-on effect on the vessels – in an internal survey at Crowley the ship crews reported an increase in the timely arrival of materials.

Although Crowley has not yet quantified the decrease in time the vessels are held up in port waiting for materials, Mr O'Malley is certain that by being more effective in expediting orders purchasing has been able to make a significant contribution to avoiding off-hire days.

'We're building mechanisms where trustworthy suppliers can float to the top' – Paul Østergaard, ShipServ

Buyers are also able to spend more time working on contracts and negotiating more favourable terms, with more accurate vendor performance data readily available in the system.

"We use this data when we conduct vendor evaluations," said Mr O'Malley.

"Our buyers can now point to a vendor's performance with regard to response times and prices – this definitely helps them negotiate discounts in contracts. It's been a big boon."

A consequence of these changes has seen Crowley progressively add more vessels and vendors to the TradeNet system to maximise the potential benefits. In fact, a willingness to use the electronic purchasing platform is now part of Crowley's vendor evaluation criteria.

Results like these, at both Crowley and TOTE, are positive examples of how electronic purchasing systems can help to improve the purchasing function, removing many of the manual tasks involved and allowing staff to spend more time finding ways to get better value from their partners and suppliers.

From a wider industry perspective, it is stories like these that will drive continued growth in the use of maritime e-commerce technology – and hopefully lead to even greater benefits for all of those operating in digital purchasing.

Ratings and reviews

ShipServ is aiming to enhance its e-commerce platform even further in 2011 through the introduction of new services to help marine purchasers learn more about new suppliers they are considering doing business with.

With the latest enhancements to the system a purchaser looking for spare parts for products from a certain manufacturer will soon be able to see if the supplier has been verified by that manufacturer and is authorised to sell genuine spare parts.

The purchaser can already see which other marine purchasers that supplier has transacted with recently, including either the full name of the purchasing company, or the name in general terms (such as 'a ship management company in Germany').

The purchaser can also see reviews from other purchasers who have actually transacted with that supplier.

All of this should help improve confidence in electronic commerce – a lack of trust between trading partners is usually one of the biggest obstacles to online trading – if a buyer is asked to transact with a supplier they don't know at all, just on the basis of a low quote.

"We're building mechanisms where trustworthy suppliers can float to the top," says ShipServ CEO Paul Østergaard.

As marine purchasers often have to find new suppliers, to provide a new product in a new port, and don't have time to investigate them fully, ShipServ is hopeful that this service should speed the process up.

Also newly introduced in 2011 is a rating measure called TradeRank, to help buyers find new suppliers they can trust as well as helping suppliers to promote themselves.

Buyers evaluating new suppliers can quickly see the popularity of those suppliers based on a 5-star grading system, which ShipServ says will help them to make more informed decisions.

The same buyers can also see customer reviews on that supplier, as well as their trading history.

Every supplier in the ShipServ Pages supplier directory has its trading history indicated on the system, based on how much they actually trade via ShipServ, the size of the orders and how many different buyers work with that supplier. Also reflected is the supplier's ratio of orders won to Requests for Quote (RFQs).

So, for example, if you are considering using a new Chinese supplier, "if you see the Chinese supplier is trading with 10 companies in Western Europe, that is telling you something," says ShipServ's SVP product management, Stuart May.

Without tools like this, a top quality supplier in a large market like China can be buried – but on Pages, "the quality will be exposed," adds Mr Østergaard.

ShipServ says that the information available is fully verified, because it is based on trades which have actually been conducted over the company's platform.

After a trade is completed, shipping company purchasing managers are given an opportunity to score the supplier (from 1 to 5 stars), on the basis of whether their purchase was delivered as described; on time; and the quality of customer service.

Only companies which have actually transacted with the supplier on TradeNet are able to provide reviews.

Based on a survey, ShipServ says that 40 per cent of suppliers on TradeNet thought online reviews would be a good thing, and 75 per cent of buyers said they would pick a supplier that had better reviews.

"Many review systems are at best marginally useful because you don't know who wrote them," says Mr Østergaard.

ShipServ's advice to suppliers is that they shouldn't worry about getting one or two bad reviews – since everybody has mishaps – and concentrate on the fact that having genuine feedback can actually increase their credibility. The important thing is that most reviews are positive.

Brand verification

A brand verification tool has also been introduced, which simply means that if a ship supplier claims on its profile page to be an authorised agent of a brand owner, then the brand owner is asked to verify this.

The purchasing manager can see all the brands which a ship supplier claims to be an agent for, and whether the brand owner has agreed with this.

If a ship supplier falsely claims to be an authorised agent of a brand, then the brand owner is able to request that the claim is removed from the ship supplier's profile page.

ShipServ says that the tool has proved very popular with brand owners so far.

"We haven't met a brand owner that didn't want to take control of their brand," Mr Østergaard said.

Wärtsilä has been one of the first companies to take advantage of this brand verification option, and immediately discovered many suppliers incorrectly claiming to be authorised Wärtsilä distributors.

The company was then able to remove these claims from the relevant suppliers' ShipServ Pages profile pages, notes Wärtsilä e-solutions consultant Tuomo Livonen.

Wärtsilä manages 20 different brands, including companies which it has acquired, and this tool makes it much easier to manage them, rather than have to resort to lawyer's letters every time it wants to stop a supplier falsely using a Wärtsilä brand.

Wärtsilä transacts "tens of millions of Euros" over ShipServ TradeNet every year, Mr Livonen says.

The company started using ShipServ Pages itself as a supplier, significantly expanding its presence on the directory in December 2010.

"In the beginning we were a bit sceptical, but our first impressions are positive," said Mr Livonen. "We can see we have buyers looking at our services."

Wärtsilä is very well known as a supplier of engines, but it also provides many other services around the world to the marine and offshore industry which are not so well known, and ShipServ Pages provides an opportunity to advertise those.

Steven Alexander, chief operating officer of the International Marine Purchasing Association (IMPA), also says that his organisation plans to use the brand verification tool so it can stop suppliers falsely claiming to be IMPA members.

IMPA provides a level of policing over its members, for example suspending suppliers from the organisation if they use a manufacturer's brand without authorisation.

"What we're going to do is use this to manage the IMPA brand, which is fantastic," said Mr Alexander. DS

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New racons for Ireland

www.tidelandsignal.com

Tideland Signal has supplied the Commissioners of Irish Lights (CIL) with three SeaBeacon 2 System 6 dual-band racons for applications around the coast of Ireland.

Two of the new racons will mark lighthouses and the third will be fitted to a type 1 buoy which replaces a Lanby (large automated navigation buoy) at the Codling station, which is in the Irish Sea.

This completes CIL's programme to withdraw all MFAs (Major floating aids - both lightships and Lanbies) from Irish waters. Lanbies were introduced in the 1960's to replace lightships.

The Codling Lanby was removed from station on July 24th 2010 and was scrapped. It was replaced by a Type 1 East Cardinal buoy, with a focal plane of over 5m, fitted with Tideland's SeaBeacon 2 racon, an AIS system and solar-powered light with a range of 9nm.

Another SeaBeacon 2 solar-powered racon has been installed at Inishtrahull Lighthouse, Ireland's most northerly lighthouse, which stands on a small island six miles north of Malin Head, off the north coast of Ireland.

Inishtrahull and nearby Tory Island lighthouse are the two main landfall lights guiding shipping from the Atlantic.

The same Tideland SeaBeacon 2 solar-powered racon system will also be used at Bull Rock, an offshore station on the South West coast. All Irish stations have been automated since 1997 and the majority are monitored from Dun Laoghaire.

Three new racons will be supplied by Tideland under the deal

'Green' bulk carrier project completed

www.lr.org

Lloyd's Register and Shanghai-based Bestway Marine Engineering Design have completed a joint-industry project to develop a new 'green' bulk carrier, which they say has produced results "far exceeding expectations".

According to the provisional data from the project, the new design for a 35,000 dwt bulk carrier will achieve an 18 per cent improvement in environmental efficiency over comparable previous versions when measured against the IMO's Energy Efficiency Design Index, a method by which a ship's CO2 efficiency is measured.

The new 'Emerald' design exceeded targets in a number of key areas - it reduced the Handysize model's steel weight by 12 per cent, making room for more revenue-generating cargo without increasing fuel consumption (the target was a 10 per cent reduction), and also reduced fuel consumption by 19.5 per cent (the target was 15 per cent).

"This project clearly demonstrates what can be achieved through the power of technical co-operation," said Nick Brown, Lloyd's Register's country and marine manager, China.

"It showcased our technical expertise and ability to provide timely insights and support to innovative designers such as Bestway right from the initial design stage."

"This project also highlighted the leadership Bestway is taking in the area of ship design. We are confident about working together again with Bestway on safe and efficient designs in the future."

Both companies have since committed to return to the drawing board to see what further practical gains can be made with 35,000-dwt and other ship designs to develop 'greener' and more efficient ships.

The initial project was started in 2009 to research the commercial, functional and design feasibility of developing environment-friendly, low-carbon, economical bulk carriers.

The partners say that owners in Asia and in Europe are showing interest in the new vessel designs, and Bestway is applying the design criteria to a number of different sized bulk carriers.

"This project demonstrated and strengthened the strong relationship between Lloyd's Register and Bestway. It is an excellent example of effective co-operation between a local design company and a leading classification society," said Prof Liu Nan, Bestway chairman and general manager.

"I am sure that with more co-operation our 'Emerald' series and other bulk carrier ship-types will be optimised and all these ship-types will satisfy a growing demand from the global ship-owner community."

Simulator upgrade for Dutch college

www.kongsberg.com

Dutch maritime training college STC-Group has signed a contract with Kongsberg Maritime for the supply of upgrades to its simulator installations.

The contract consists of extensions and upgrades to the group's full mission and part task ship's bridge simulators and its full mission engine room simulator.

A complete upgrade of the group's classroom set of 15 desktop cargo handling simulators and 15 desktop engine room simulators, including instructor stations for both classrooms, is also included in the delivery, in addition to new ship and engine models for the different simulators.

Kongsberg Maritime will install the latest versions of its ship's bridge simulation software and hardware, with the upgrade including an extension of the visuals and the addition of new navigational instruments including Multiflex touch screen panels.

A range of new high-fidelity hydrodynamic ship models for a greater variation of exercises will also be included in the delivery.

The engine room simulator part of the upgrade will include an upgrade of the group's full mission simulator to the latest MAN B&W MC90-V engine, and a classroom installation of the same model on Kongsberg Maritime's latest version of its BigView touch-screen, an interactive mimic engine room simulator system.

This system features 3D models of the engine room that can be interacted with by touching the screen.

Also included in this delivery is a container ship engine simulator model with Wärtsila RT-flex common rail engine, specially developed for training on green ship operations.

STC-Group is investing in upgrading its current chemical, LPG and crude cargo handling simulator for its classroom configuration, and, in response to developments in the Port of Rotterdam, the group has also purchased a new LNG cargo handling simulator as part of the contract.

"The contract is a part of the European Transport Academy project partly financed with subsidy from the European Regional Development Fund," comments Erik Hietbrink, chairman of the board, STC-Group.

"As a major education and training institute, STC-Group evaluates on a regular basis the market for various simulator applications, and it appears that no supplier is close to offer the fidelity and realism as found in Kongsberg Maritime simulation models."

Vestfold and Kongsberg in R&D agreement

www.kongsberg.com

Vestfold University College has signed a framework agreement with Kongsberg Maritime's simulation division to explore activities and projects of joint interest within the area of research and development of maritime simulators.

The agreement comprises R&D project plans and the use of an Interactive Simulator Laboratory (SIMSAM lab) at Vestfold University College, which will serve as an R&D facility.

This will include several R&D projects involving maritime simulators such as the on-going SIMAR project - Simulation of Demanding Maritime Operations - which aims to improve simulation training by enhancing the focus on human factors.

Kongsberg Maritime and Vestfold University College are major partners in the SIMAR-project, in addition to the University in Oslo, Norway and Chalmers University of Technology in Sweden.

Other R&D projects under consideration include the fields of communication and team training for best practice in maritime simulation and environmental/fuel efficient surveys for Green Ship training.

Under the agreement Kongsberg Maritime will deliver an Offshore Vessel Simulator configured as a navigation bridge, which will be used as a test facility for the R&D projects at Vestfold University College.

Vestfold and Kongsberg aim to work together in the development of maritime simulator systems

This simulator will be one of the major components in the planned SIMSAM laboratory, part of the University's new Oslofjord Research and Innovation Park and a focus area for the entire maritime cluster in the Oslofjord area in the south of Norway.

The new University Park will also be equipped with a Seismic Vessel Simulator, which will be developed and delivered by Kongsberg Maritime.

Petroleum Geo-Services (PGS) will be the owner of this module, which will serve as a training facility for the company, while the University will host it and contribute pedagogical services.

"The new simulator will be configured as a work deck offering students crew training with the purpose of increasing efficiency and safety in demanding seismic vessel operations," explains Einar Nielsen, VP projects, PGS.

There will also be an opportunity to connect the different simulators at the University's Research, Innovation and Industry Centre, for team training and extended R&D projects.

"This is a significant extension of the SIMAR project, which we launched together with Kongsberg and Chalmers University of Technology in Sweden last summer," said Marius Imset, institute leader at the Faculty of Technology and Maritime Science at the University College in Vestfold.

"The new state-of-the-art simulators for the R&D facility will form the centrepiece of our activity as we look at various ways of improving maritime training in cooperation with suppliers and actors in the maritime industry, like, for instance, PGS."

"Our end goal is making maritime operations across all sectors safer, more efficient and more environmentally friendly."

ORBCOMM admits loss of final AIS-enabled satellite

www.orbcomm.com

ORBCOMM has noted, in a filing to the US SEC (Securities and Exchange Commission), that its ability to provide satellite AIS services has been interrupted as a result of the loss of a satellite.

The last of ORBCOMM's remaining AIS-enabled Quick-Launch satellites (QL3) exhibited communications failure toward the end of the fourth quarter 2010, according to the statement.

The company notes that all six of its AIS-enabled satellites, launched in June 2008, have already been fully depreciated or impaired for accounting purposes, and that ORBCOMM received $44.3 million of insurance proceeds with respect to these satellites in December 2009.

ORBCOMM's regular Machine-to-Machine (M2M) messaging service is not impacted by this event since QL3 had not been providing any ORBCOMM messaging services since June 2010.

ORBCOMM says it will continue its efforts to restore commercial-level AIS service in the near term through securing other third-party sources, and that the financial impact resulting from this interruption for the first half of 2011 is expected to be less than $1 million in future revenues.

The company also plans to launch multiple new satellites, commencing with its first AIS-only satellite under an agreement with OHB/Luxspace which is scheduled for launch in the second quarter of 2011.

ORBCOMM says that this will then be followed by the launch of two of the 18 more powerful AIS-enabled satellites planned for its next generation network.

This plan includes the launch of up to four (two AIS-only and two OG2) satellites in 2011, on three separate launch vehicles. These satellites are expected to provide improved AIS data service capability significantly beyond what was previously available.

GMDSS station for Thailand

www.gmdss.info

Australian GMDSS company Dunstan and Associates reports that it has commissioned a new GMDSS shore station in Thailand.

The station provides Sea Area A1, A2 and A3 services, and is part of the Thailand Marine Department's new Vessel Traffic Management and Information System.

The station is located near the port of Laem Chabang, south of Bangkok, and uses Barrett HF radios, Tait VHF radios and the TransOceana DSC system in the provision of GMDSS services.

The company has previously been involved in a number of other GMDSS station projects in the Asia-Pacific region.

These have included a GMDSS upgrade to the Government marine radio station in Mauritius last year, as well as the creation of other GMDSS stations at Bangka Island in Indonesia in 2009.

MCA aims to clarify ECDIS training requirements

www.ECDISregs.com

The UK's MCA (Maritime and Coastguard Agency) has issued a new Marine Information Note to assist UK vessel operators in making sure that their navigators are receiving the right kind of ECDIS training.

Marine Information Note MIN405 (M+F) aims to clarify the type of training that is acceptable for Masters and all Deck Officers of UK flagged vessels which have ECDIS as their primary means of navigation.

The document outlines the requirements with regard to completion of both generic and equipment specific ECDIS training, and goes a step further by stating that 'trickle down' training with regard to equipment specific training is not acceptable.

Mark Broster, managing director of ECDIS Ltd in the UK, has welcomed the move, saying that "it is commendable to see that the MCA are upholding [training] standards by insisting on proper training."

"We know only too well the difficulty that ship-owners, managers and mariners are having in making sense of the plethora of legislation regarding ECDIS, and this document goes a long way in clarifying the position for UK flagged vessels."

ECDIS Ltd suggests that shipping companies should now start planning their training strategy to incorporate generic and equipment specific ECDIS training for their crews.

VSTEP has appointed **PT Terravision Indonesia** as its marketing, sales and implementation partner in Indonesia. Terravision will be responsible for business development of both VSTEP's NAUTIS Maritime Simulators and RescueSim Emergency Response Simulators.

VSTEP has also announced a partnership with **Anacom Eletrônica** for distribution of its simulator products in South America.

McMurdo has launched a new corporate website which showcases its range of brands, including Kannad Marine and Kannad Aviation products. A documents section is included, with a catalogue of safety information and certification for the full range, as is a dedicated 'warranty' page, where customers can register their warranty online.

New website for McMurdo

www.vstepsimulation.com
www.mcmurdolimited.com

Great Offshore opens simulator facility

www.arisimulation.com

Great Offshore of India has opened a new integrated offshore vessel and crane handling simulation facility, based on systems provided by ARI Simulation.

The new simulation package includes a complete recreation of the bridge of an offshore vessel, and is equipped with all navigation and propulsion control systems as well as fully integrated GMDSS systems, POSCON controls and Dynamic Positioning.

The aft bridge station is equipped with both ship handling and engineering controls to allow for the complete simulation of complex anchor handling operations.

The system has been configured with multiple controls, including thruster telegraphs and azimuth systems, while custom models of Great Offshore's own vessels have also been designed and implemented - including AHTSVs, PSVs and harbour tugs.

The integrated nature of the installation, combining both shiphandling, navigation and operations features, allows Great Offshore to conduct simulator training for entire end to end missions.

Visuals are delivered using 9 plasma display screens providing a better than 270 degree field of view, and using ARI's latest version of its graphics system.

The new simulator is based on systems supplied by ARI Simulation

"It is the man behind the machine that makes the difference," said Soli Engineer, executive director of Great Offshore.

"We have taken concrete steps to mitigate the challenges faced by us in designing and building our own indigenous offshore ship handling and manoeuvring simulator incorporating the latest technologies into a unique world-class product. This is the first and only integrated offshore vessel manoeuvring simulator East of Suez."

Shravan Rewari, CEO of ARI Simulation, also commented: "The Great Offshore systems utilise much of the framework inherent in ARI's comprehensive range of offshore simulation products - from tightly integrated process simulation; crane operations, ship handling, navigation, dynamic positioning, complex heavy lift operations, anchor handling and towing."

"ARI's unique physics engine provides a completely realistic solution to the complexities of crane/anchor-handling /towing operations and their dynamic effects on the stability and handling characteristics of the vessels involved."

"These features - at the forefront of today's technology - combine to make this installation an extremely exciting benchmark in the challenging world of immersive offshore oilfield operations training."

BNWAS launched by Totem Plus

www.totemplus.com

Totem Plus has launched its new BNWAS (Bridge Navigational Watch Alarm System), a system which monitors bridge activity and raises alarm if the Officer On Watch (OOW) becomes incapable of performing their duties.

New regulations from IMO will require carriage of a BNWAS complying with IMO performance standards.

For existing ships, the equipment should be installed in connection with the first survey after various deadlines, depending on ship type – 1 July 2012 for passenger ships and ships over 3,000 GT, 1 July 2013 for ships over 500 GT, and 1 July 2014 for ships over 150 GT.

New ships over 150 GT and all new passenger ships constructed after 1 July 2011 need to be equipped with a BNWAS.

Totem Plus notes that a unique feature of its particular system is the presence of what it calls a 'burglar alarm' - a security mode that will trigger an alarm if motion is detected on an unattended and locked bridge in port.

The BNWAS also offers various types of alarm options, NMEA output for transfer of the BNWAS status to the VDR, and an 'auto' mode with activation available from an external source (such as an auto pilot).

VLCC delivered with new automation system

www.kongsberg.com

A Korean-built VLCC has been delivered as the first vessel to feature Kongsberg Maritime's new K-Chief 600 marine automation system, part of an integrated Vessel Performance System (VPS) which aims to help reduce fuel consumption and lower emissions.

The K-Chief 600 system was first announced early in 2010, with a pilot project aboard 'MV Sia' completed in May 2010.

Following this first delivery of a vessel sailing with K-Chief, Kongsberg says that it already has installations scheduled for another 80 K-Chief systems, aboard further VLCCs, Ro-PAX vessels, container ships and crude oil tankers.

The K-Chief 600 system includes touch screen and split screen capabilities, context Mini trends, a 7 days full trend system, and a new Human Machine Interface (HMI).

"The new HMI has been developed to meet ongoing demands from the industry for modern HMIs on critical systems such as navigation and automation," says Bente Lise Melås, VP integrated automation, merchant marine division, Kongsberg Maritime.

The Korean-built vessel is the first to feature the K-Chief 600 marine automation system

"The K-Chief 600 HMI offers a number of improvements, including upgraded alarm presentation, multiple palettes, split screen with up to four resizable views, improved operation dialogues with integrated mini trends, flexible tabular views with sorting, filtering and optional columns selection, custom views and better data handling to name but a few."

"Together, these enhancements provide a user-friendly experience that contributes to the safety and efficiency of any vessel."

The Kongsberg Maritime VPS aboard the new build VLCC, fully integrated with the K-Chief 600, analyses all aspects of the vessel's energy use including speed, trim and weather conditions in real time.

It also includes fuel and engine performance monitoring systems, for online analysis and prediction of main engine failures before they may occur. The VPS harmonises previously disparate vessel performance applications offered by Kongsberg Maritime and its partners into a single station.

POSH contract for Veripos

www.veripos.com

Veripos has been awarded a five-year contract for positioning services by offshore company POSH Semco of Singapore.

Under the terms of the contract, Veripos will provide 19 DP POSH Semco vessels with a combination of proprietary positioning services, including its Ultra Precise Point Positioning (PPP) facility for decimetre-level accuracies.

Existing Veripos hardware, already operational aboard most of the fleet, will be upgraded and standardised over the coming year with installation of LD2-G2 integrated mobile receivers on nine vessels.

POSH Semco operates globally with a fleet of more than 90 vessels, and with another 20 vessels to be delivered over the next three years.

Its expanded fleet will comprise deepwater Anchor Handling Tugs (AHT), Anchor Handling Tug/Supply (AHTS) and Accommodation Vessels, Crane Barges, Offshore Utility craft, Azimuthing Terminal Tugs, Oil Storage Barges and Ballastable Tank Barges.

ECDIS website launched

www.ecdisregs.com

A new ECDIS website has been launched which aims to provide ECDIS related information to the mariner to make current legislation clearer and easier to understand.

The ECDISregs.com website has been created with help and support from international sources and in conjunction with ECDIS training company, ECDIS Ltd. Information is provided free of charge.

“Finding relevant ECDIS legislation can be frustrating and time consuming, so this new website aims to provide all relevant information in one place,” commented Mark Broster, ECDIS Ltd.

“The site is supplemented with expert comment provided by the ECDIS Ltd team in order to help the mariner navigate and understand the mass of legislation that exists. The service is free to view, and has already proven to be very popular.”

ECDISregs.com will include a library of regulations, publications and documentation pertaining to ECDIS and related subjects.

Collaboration on NMEA 2000 interface

www.actisense.com
www.nobeltec.com

Actisense and Nobeltec have announced that have collaborated in a project to integrate NMEA 2000 technology into Nobeltec software packages.

Nobeltec is a developer of PC-based marine navigation software programmes and a supplier of electronic charts, hardware, and accessories.

The Nobeltec NMEA 2000 Gateway (NGT-1-NBL) has been designed to transfer NMEA 2000 data from the NMEA 2000 bus to PCs running the Nobeltec VNS 11 and Admiral 11 navigation software programmes.

"It has been a wonderful experience working with the great people at Actisense to build the Nobeltec NMEA 2000 PC Gateway (NGT-1-NBL)," commented Bill Washburn, product manager at Nobeltec.

"The Nobeltec NMEA 2000 PC Gateway, powered by Actisense is based on the NGT-1 a great, award winning product. We at Nobeltec look forward to continuing the great relationship between our two companies and developing additional innovative and award winning products."

Raytheon to supply Malaysian newbuilds

www.raytheon-anschuetz.sg

Raytheon Anschuetz Singapore reports that it is to supply navigational bridge equipment to two 75 metre multipurpose offshore support vessels being constructed at Nam Cheong Dockyard, and a 60 metre AHTS newbuild which will be constructed at the Berjaya shipyard, both in Malaysia.

The two DP2 offshore support vessels are expected to be completed in spring 2011 and will provide anchor handling capability and accommodation for up to 220 people when conducting offshore maintenance works.

The contract comprises a redundant Anschütz Standard 22 gyro compass and NautoPilot 2025 autopilot system, NSC Radars, as well as the full package of sensors and radio communication equipment for sea area A3.

Raytheon Anschuetz Singapore will be responsible for system integration of the new equipment in accordance with ABS class rules.

The other contract covers the supply of gyro compass, autopilot, sensors, radio equipment and radar system integration to the 60 metre AHTS newbuild to be delivered from Berjaya.

“Thanks to our engineer's deep experience in interfacing, even with other makers’ equipment, Raytheon Anschuetz Singapore has proven itself in providing turn-key navigation solutions according to individual requirements and classification rules,” commented Jan Lötzsch, managing director of Raytheon Anschuetz Singapore.

“With our large spares depot and manufacturer-trained technicians we have best qualifications for reliable after sales service.”

Laser system introduced to foil pirates

www.photonicsecuritysystems.com

Photonic Security Systems (PSS) has launched a new non-lethal pirate defence system, the LDS100, based on laser technology.

The LDS100 aims to prevent pirates from approaching a ship by sending a 10 metre wide multi-band laser light beam, up to a distance of 1 km, to dazzle the potential intruders and disable them from locating and boarding the ship.

The system is located in the ship’s hull, to make it difficult for the intruder to disable it, and incorporates a twin laser system, with the command centre mounted inside the bridge.

The laser optics are mounted on swivelling and tilting tracking cameras. These are then mounted on brackets on each side of the vessel, to enable it to track the incoming craft.

The technology utilises multi colour channels that are blended via a transmitter control unit and then directed to a lens through a fibre optic cable.

When activated and directed at an incoming craft, the multi-colour laser should create enough difficulty for the attackers to allow the ship’s Captain to take a suitable evasive course of action to minimise further attacks.

“The problems of piracy at sea have been prevalent for some years, with many ships and crews having been held hostage,” said Paul Kerr, PSS.

“At PSS we believe we have developed a new commercial product that will assist to reduce piracy at sea.”

“The LDS100’s laser beam will temporarily stun the intruders and enable the Captain to take evasive action. A few seconds can make all the difference.”

Each unit package is built to suit the voltage supply available onboard and to the requirements of the ship. The units can be linked to threat detection devices or thermal imaging equipment if required.

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Product-specific onboard ECDIS CBT launched

Maritime IT companies Seagull and MARIS have worked together to create what they say is the first computer based training system for ECDIS that is product-specific, in this case on MARIS ECDIS

MARIS and Seagull have reached an agreement to develop a product-specific computer-based training ECDIS (Electronic Chart Display and Information System) module.

Seagull's existing ECDIS onboard training course includes training in the use of ECDIS and its various information features, as well as the application and management of electronic charts.

Under the new agreement, Seagull will re-design the MARIS ECDIS900 Application Trainer to be included in the Seagull library of CBT modules.

It will be available as a 'Product Specific Training' module to cover the latest revisions to STCW, working on Seagull's existing CBT-based training administrator.

The MARIS ECDIS900 CBT module will be available as part of software released by Seagull, as well as being physically delivered and supported technically by Seagull.

"This course is the same as the generic onboard ECDIS course from Seagull, but it has been amended with an Applications Trainer for the MARIS ECDIS," said Seagull managing director Roger Ringstad.

"[The new software] will have the same assessment mechanism built in as the standard Seagull CBT modules, while the workbook will be the same as for the standard ECDIS course."

The training system will be available via an annual subscription per ship and upgraded for as long as the subscription is held, and will be based on self-tuition by navigating officers while onboard.

Orders may come from the Seagull network or from MARIS, with MARIS distributors able to sell the system and route their orders to MARIS, which will in turn pass the orders on to Seagull.

Training using the application should be performed under supervision of the ship's Master or an approved assessor, and supported by an ECDIS Onboard Workbook.

The ship's Master or the approved assessor will confirm that the candidate has performed satisfactorily, endorse the course training records and send them to the Seagull Training Centre for assessment.

There, an instructor will verify that a complete set of documents has been received and that all training records and written responses to the workbook meet the required minimum standard.

On completion of these steps the instructor will issue and submit to the vessel a course certificate.

Product-specific training

Mr Ringstad believes that that the need for product-specific ECDIS training cannot now be ignored as the first ECDIS mandation deadline in 2012 looms ever closer.

"Used by qualified navigators these systems increase the safety of navigation," he said.

"However in the hands of unqualified operators they may contribute to misunderstandings and even accidents. Understanding the philosophy, limitations and features of ECDIS is a must."

ECDIS onboard training is both effective and cost saving, said Mr Ringstad, since the seafarer is already in situ and does not incur any travel or accommodation expenses.

At the same time the candidate can be trained in the use of the specific ECDIS system and equipment configuration onboard.

'The future of ECDIS training is onboard ship' – Steinar Gundersen, MARIS

"Shore-based ECDIS facilities can hardly offer the type of product-specific training that key Flag States are increasingly seeking, because there are too many different ECDIS makers and an unlimited number of software versions and system configurations," he said.

"ECDIS training has reached a crossroads and ship owners need to be ready for compulsory ECDIS. We are preparing to take our generic ECDIS training package forward so that it can be product-specific, in order to speed up the ability of ship owners to meet what will become statutory obligations."

MARIS deputy chief executive (corporate) Steinar Gundersen echoed the view that training at sea may be the only viable option to ensure competence in the ECDIS-mandated world.

"As has been the case in other forms of training for some time, the future of ECDIS training is onboard ship," he said.

"As the first in the world to offer product-specific ECDIS training through Seagull, we will meet the IMO model course 1.27 and be certified to replace less efficient training ashore."

Seagull says it is also open to developing product-specific training packages for other ECDIS suppliers and has already been approached by half a dozen potential partners.

"Currently, this agreement is unique to the industry, but I am sure its significance will not be lost on regulators, ship owners and other manufacturers," said Mr Ringstad.

Additional products

Separate from this agreement, MARIS and Seagull have also both announced new individual technology developments in other areas.

MARIS says it has secured what it believes to be the world's first type approval certification for an independent PC-based radar kit to meet the new Radar Performance Standard MSC.192 (79).

The certification recognises the MARIS Radar Kit as an integral part of a Radar system, type approved to the latest standards associated with Radar Test Standard IEC 62388.

The new Radar Performance Standard, coupled with Radar Test Standard IEC 62388, together encompass performance requirements for marine radar, particularly in terms of target detection in adverse weather conditions where small targets are often barely visible to the radar system.

Certification of the MARIS radar kit will now allow third parties to easily add a PC-based radar to an integrated navigation system, as an OEM product.

The kit includes a PCI card (Radar interface board, or RIB) and the necessary radar software, and operates on a Microsoft XP platform in a PC environment. As such, MARIS says it has the capability to interface with the majority of leading radar and navigation sensors.

"The new Radar Standards require that any approved radar must be tested as a system and therefore, where appropriate, it is also necessary for equipment integrating with the radar kit to be tested and certified by an approved test authority," said Mr Gundersen.

"MARIS is able to provide advice and support to achieve this approval status, and the radar kit has been specifically designed to offer a degree of flexibility for custom requirements, including the HMI (human machine interface), recognising the need for diverse yet compliant products."

IMSBC

Seagull's other development is the introduction of a new CBT module that incorporates the regulatory changes made through the International Maritime Solid Bulk Cargoes (IMSBC) Code, that became mandatory under the SOLAS Convention from January 1st, 2011.

The new Code, which covers the loading, discharge and transportation by sea of dry bulk cargoes, replaces the Code of Safe Practice for Solid Bulk Cargoes (The BC Code), and has to be followed by all bulk carriers.

Working with South Tyneside College, Seagull has completely revised its previously BC Code-compliant training module in order to implement the necessary changes and bring it in line with the new IMSBC Code.

The new IMSBC Code CBT module incorporates a total of 12 chapters, dealing with different aspects of the Code, introducing best practice and also setting out optimum safety measures for the loading, discharge and carriage of solid bulk cargoes.

In particular, the training module focuses on the particular requirements in respect of solid bulk cargoes that are liable to self heat and thereby combust, and how to maintain the structural stability of the ship by eliminating stresses on bulkheads and other parts of the vessel.

Seagull's Captain Jim Dibble notes that the company has designed the new module to be useful from a practical point of view for seafarers onboard bulk carriers, rather than being too complicated or legalistic.

"The new training module allows seafarers to grasp the new IMSBC requirements in an intuitive way, so they can more easily comprehend what is now required of them," he explained.

Taking about two hours to complete, Seagull's IMSBC Code CBT also gives practical examples of real situations that have occurred on bulkers in the past.

"We have illustrated the dangers of non-compliance with actual accidents or incidents that have occurred within the industry. Introducing real scenarios helps focus the minds of seafarers on the task in hand which will ensure the safety of themselves and their colleagues, as well as the safety of the vessel itself," said Captain Dibble.

At the end of each of the chapters there is an assessment section which will enable seafarers to get a good idea of the level of understanding they have reached.

The results of this assessment can also be accessed by the company's training administrators, via a database, so that they can see how much of the training has been completed and the level of comprehension that has been achieved.

"One of the strengths of the Seagull training package is that it allows the owner or operator to assess not only the training but also how it is taking place onboard the vessel," said Captain Dibble.

"As well as being highly cost effective, it also allows shore-based staff to continuously monitor the progress that is being made."

Seagull's new IMBSC CBT training module is aimed primarily at seafarers sailing on bulk carriers, particularly those at STCW Management and Operation level who are involved with cargo operations.

Captain Dibble says however, that it can also be a useful tool for management at the shore-based offices of shipowners and operators as it can give staff in these locations a detailed view of the issues involved in loading, discharging and transporting these types of cargoes. DS

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ECDIS – Capabilities and Limitations

ECDIS is a powerful tool that offers a range of benefits to the modern navigator – but only if applied correctly and with adequate knowledge of the system's capabilities and limitations. Paying close attention to the ECDIS fundamentals can make a big difference, w*rites Malcolm Instone, ECDIS Ltd*

As a historical comparison, the onset of ECDIS could be said to be as significant as putting steam powered engines and propellers on sailing ships.

The comfort blanket of the much loved and respected paper chart is fast disappearing and being replaced by a digital equivalent. Some embrace this new technology and others fear it.

It is therefore not surprising that the rapid advance of this new technology means there are large numbers of ships navigating with paper charts and ECDIS, or in historical parlance, navigating with sails and engines.

This will no doubt continue until adequate training, equipment efficiencies and trust in ECDIS equipment warrants the removal of 'sails'.

For those that distrust these systems, much of the distrust can be put down to a lack of the proper training that would give the operator the ability and confidence to use the equipment efficiently and effectively.

The need for training is justified by the large numbers of ECDIS related incidents at sea. We all read about these incidents and with the benefit of hindsight pass judgement, but this could be you joining a ship with ECDIS, without adequate training.

Ask yourself whether you would be able to utilise the system safely and effectively? Are you willing to take the risk of not conducting adequate training?

One thing is certain, when used by properly trained operators ECDIS provides enormous benefit for the mariner over existing paper charts.

Such benefits include:

- Increase in spatial awareness and efficiency – This ultimately means the operator has more time to look out of the window.
- Fusion of navaid information – Pools information feeds to assist in compiling your picture (e.g. Radar Image Overlay (RIO), AIS and NAVTEX).
- Increased safety in dangerous conditions – If you can prove the ECDIS derived position correct you can judge yourself to the nearest point of danger very accurately.
- Fast, accurate passage planning and re-planning
- Automated, fast, accurate chart updates

It is my opinion that the concept of ECDIS systems can be likened to that of radar sets.

Radar sets are subtly different in the way they look and the software they use, but on the whole they all contain much the same functionality. The challenge is to know where to find that functionality on the system you are using.

The existence of multiple systems in fleets makes this challenge greater, although for those that are waiting for the day all ECDIS menus look the same do not get too excited. One only needs to look at radar which has been around for decades to see that it is highly unlikely.

It is therefore incumbent on the purchaser to choose their ECDIS system with care so they have the functionality to meet the task (minimum performance standards laid down in IMO A.817(19)).

Furthermore, it is essential that adequate training is available so the operator is able to get the most out of their ECDIS and understand both capabilities and limitations of the equipment.

Playing around with an ECDIS for a couple of hours is not enough to warrant navigating with it. There is no substitute for proper training.

I have listed some advantages of ECDIS over paper charts, but what does ECDIS offer the operator in terms of functionality and time saving during the Route Planning process (Appraisal, Planning, Execution and Monitoring), and what are the shortfalls of using such systems for this purpose?

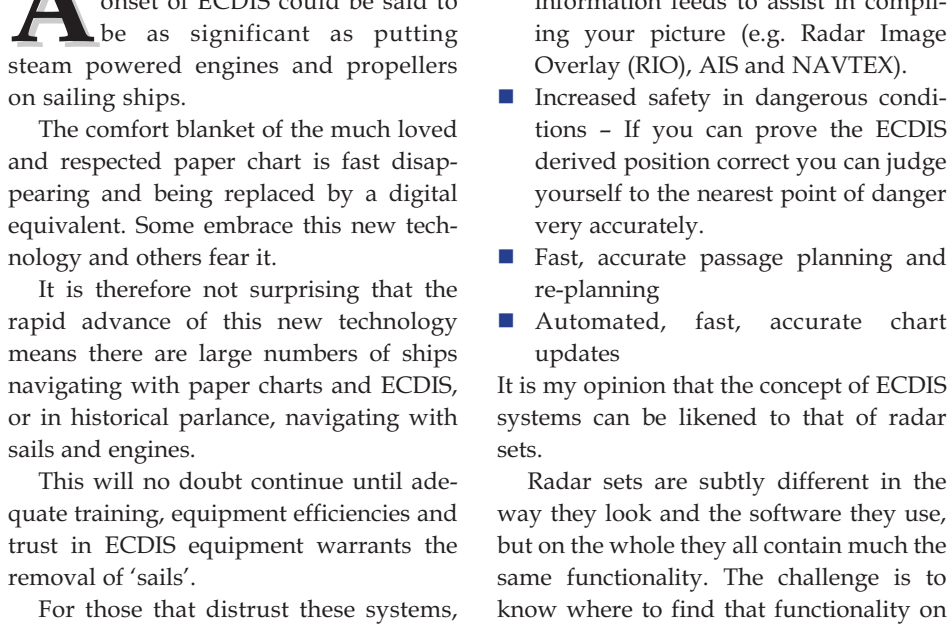

Figure 1 – Overlay of catalogue of available charts

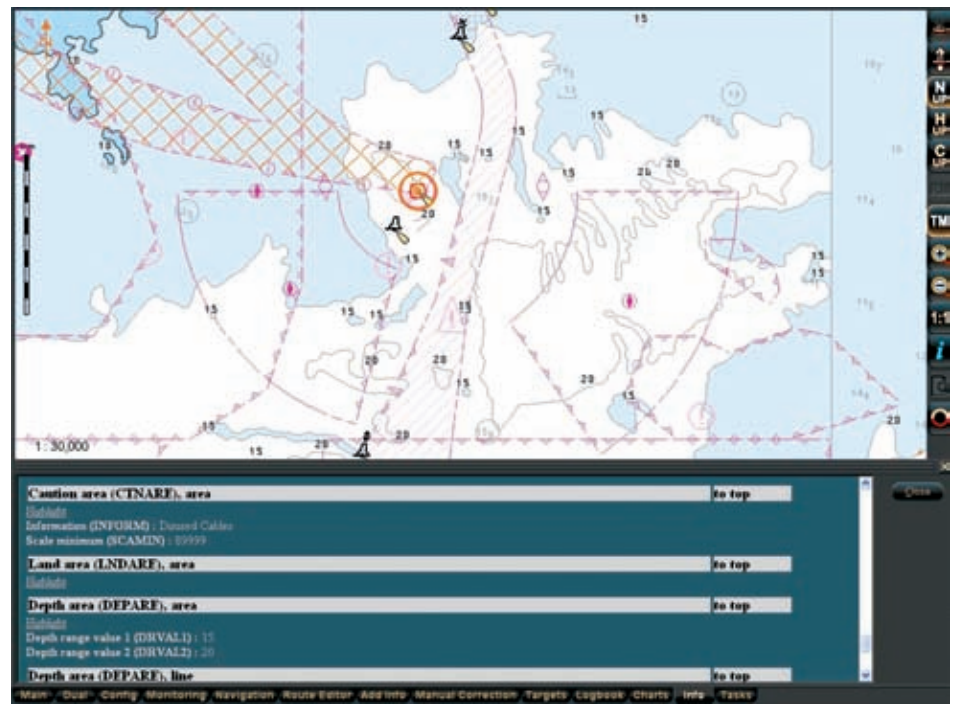

Figure 2 – Cell information

Data

Firstly, without data an ECDIS system is useless. It is the quality of data within it that is the basis for navigational safety.

It may therefore be prudent for the would-be ECDIS purchaser to choose a quality, reliable data product first before purchasing an ECDIS that can utilise it, rather than the other way round.

There are two different types of data product available for use in ECDIS, Raster and Vector charts.

Raster charts are high quality scans of paper charts whereas Vector charts are databases that use 'objects' in the database to create a customised display.

There are official variations of each data type, called Raster Navigational Charts (RNC) and Electronic Navigation Charts (ENC). Both terms sound non-specific but are in fact very specific.

RNCs, by definition, are official charts as their official status is based on the premise that they must be constructed in accordance with IHO publication S-61 i.e. standardised and issued by a government authorised Hydrographic Office (HO).

ENCs, by definition, are official vector charts as their official status is based on the premise that they must be constructed in accordance with IHO publication S-57 i.e. standardised and issued by a government authorised HO.

With the existence of Private data produced by companies independent of HOs it is prudent to tread with caution in order to ensure that your data product is official.

When installed with data, ECDIS systems can utilise a number of different products of both RNC and ENC format to suit the mariner's needs.

The system is also capable of giving visibility of holdings so that you can see which charts are available within your system folio. This can be displayed as a list of available charts or as in Figure 1, as an overlay similar to that shown in a chart catalogue.

However, the shortfall of the system with regards to data is that ENC coverage of the world is incomplete. Therefore, if your route is not entirely covered by ENCs, then in accordance with IMO Circular 207 the mariner must utilise an appropriate combination of ENCs, RNCs and paper charts to execute the route.

Thus, not only does it require careful planning with regard to data use, but also great expense for the mariner.

Here are some considerations when using data:

- What data products can your ECDIS utilise (SENC data such as TADS?)
- Do you have sufficient coverage of ENCs for your route?
- If you do not have sufficient coverage of ENCs, do you have sufficient RNCs?
- If using RNCs you are in RCDS mode and you will require an 'appropriate' folio of paper charts in accordance with IMO Circular 207
- What is your Flag State definition of 'appropriate' folio of paper charts?
- The operator must ensure the system prioritises the correct chart data type (ENC/RNC). Know how your system prioritises data.

Advantages – and caveats

An obvious advantage when using ENCs is the ability to interrogate it to view information on the cell and objects within the cell (see Figure 2 on previous page). Effectively, it provides access to an encyclopaedia of information that the operator can access.

In future this may include the integration of a huge number of information sources such as Admiralty List of Lights & Fog Signals (ALLFS), for example, in order that all relevant information is available at the operator's fingertips.

However, before you get excited at the prospect, there is a lot of work required before this vision is achieved. Moreover, access to this information on ECDIS systems is not yet as user friendly as it could be.

For example, it is not always possible to get a sufficient explanation of an object, particularly when interrogating ECDIS Chart1 and it can take a long time to find the information required.

Many systems do not prioritise the interrogated object at the top of the list of those available in the cell and as such it can take time to cycle through the list before you find what you are looking for.

It should be noted that although RNCs are scans of paper charts, when interrogated they also provide limited information about the chart such as Title, Scale, Projection and Updates, but objects within it cannot be interrogated.

Some systems offer additional databases such as tidal curves (see Figure 3) and prediction data to aid in calculating HW, LW, tidal heights and predicted TS.

However, before committing to such databases, it is worth considering where the data is from, whether it is official data and if or how it can be updated.

Not all Flag States approve data provided by ECDIS manufacturers, with some stating that only Admiralty Total Tide (ATT) is acceptable (most systems are able to integrate ATT).

The environmental data in some systems may be official, in that it has been purchased from official sources, but it does not necessarily state exactly where it is from, so be careful.

Some systems are able to provide their own database of worldwide ports and port information to aid the Mariner, whilst others can be integrated with existing publications such as Lloyd's Fairplay.

If utilising databases provided by the manufacturer then consider how the database is updated and whether information can be updated by the user as changes occur.

Another great advantage of the ECDIS is its ability to highlight a given Safety Contour based on a set Safety Depth. ECDIS uses an operator configured safety depth to display a safety contour that differentiates safe water from that which is unsafe.

However, the lack of contour data currently available within ENCs means the operator is not yet able to fully harmonise the Safety Contour with the Safety Depth.

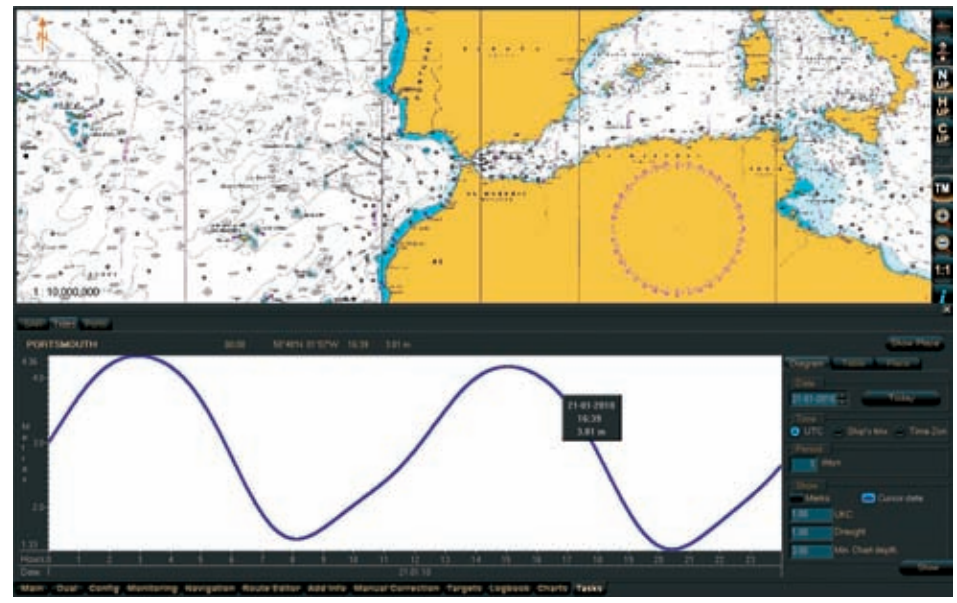

Figure 3 – Tidal curves

Passage planning

Route creation on an ECDIS can be fiddly and frustrating to start with, but when practised makes the process much quicker.

For example, if you were constructing a Great Circle route on paper charts it would be fair to say that this would require knowledge, skill and a significant amount of time! However, constructing a Great Circle route on ECDIS takes seconds as waypoints are placed at the click of a button.

Moreover, there is no need to rub out your past track and re-plan or transfer waypoints from one scale of chart to another as waypoints are placed on all available charts for its position.

Once the Route is complete you are presented with all the information relevant to the route. Enter your ETD and it will calculate your arrival time based on planned speed or enter your ETA and it will calculate when you need to depart.

If you enter your ETD and ETA the system can calculate the necessary speed required to meet the ETA i.e. SOA. Some systems can calculate the effect of tide on your route timings and even calculate Under Keel Clearance based upon an entered draught.

Once the plan is derived it can be saved and used again and again or even copied to disc and shared amongst a Fleet of ships.

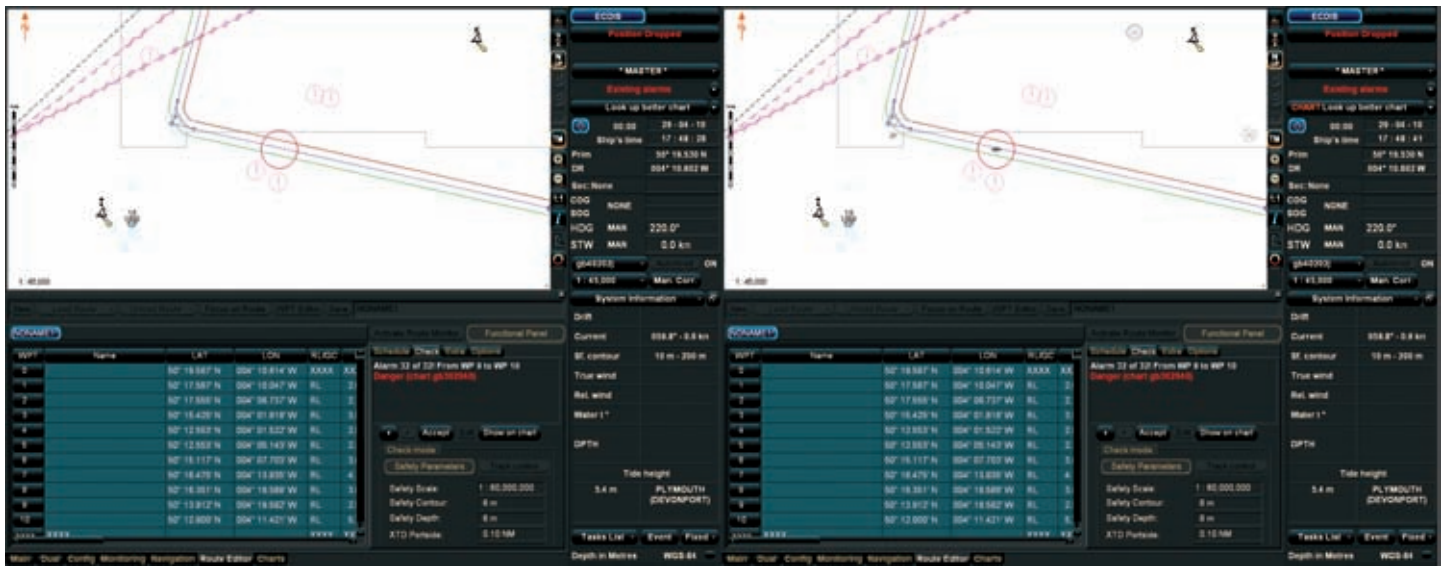

Figure 4 – Standard display versus Custom display

However, the route planning function varies between systems with some being easier to use than others. Furthermore, some systems lack functionality with regard to producing Great Circle routes.

For example, not all are able to split the curved line into individual Rhumb Lines, whereas other systems provide detailed options such as limiting latitudes, number of segments, length of segment etc. It must also be noted that not all systems can calculate SOA based upon an entered ETD and ETA.

Once a route is planned ECDIS systems also have the ability to check the planned route for dangers.

However, be careful as the check only looks within the Cross Track Distance (XTD) or Corridor of the route, so ensure that it is correctly configured to cover the required area. The wider the XTD the more alarms will be generated, although this is not a reason to reduce it below what is required.

The check looks for set parameters which could be system defined as well as operator defined, depending on the system. If your system offers the ability to configure the search beyond set parameters, ensure that what you want the system to search for is selected.

Also, when checking the route it is important to ensure that the correct display setting is selected (see Figure 4).

In the left hand screenshot the system is in the Standard display and the route check is highlighting a Danger, although it is not shown. In the right hand screenshot the display has been set to Custom and Isolated Dangers have been selected for display. The highlighted symbol is now displayed (non-dangerous wreck).

Another frustration when using ECDIS systems to check a route is that it may highlight the same danger on multiple occasions without recourse for the operator to clear the specific danger in one action.

When conducting the check of the route, the system will only check ENCs and not RNCs, unless there are manual alarmable constructs within the XTD.

The inability of most systems to highlight gaps in ENC coverage for your route therefore necessitates that a manual check on the best scale charts be conducted for the entire route. Note that this can be time consuming but comes highly recommended!

Once the Route has been checked, additional information pertinent to the route can be added. The system can even be configured to alert the operator of such notices.

Considerations at this stage are how best to display the information so that it can be clearly seen by the operator.

Note that the font size is constrained on many systems and symbology is also limited. Personally, I used to favour a 'cloud and arrow' approach on paper charts to draw attention to supplementary information, but this is not necessarily available as a symbol in ECDIS.

You must therefore make use of whatever is available and what works for you. Perhaps technology will allow the use of light pens to add such information in future?

Interpreting information

It is essential that the system is set up correctly prior to executing the route or important information will not be displayed. This relates to settings for display, data for the vessel itself and the configuration of Alarms on systems that allow it.

For display purposes, the amount of information must be configured prior to executing the route and for this purpose 3 types of display must be available for use with ENCs; S52 Base, Standard and All Other.

The 'Base' display (Figure 5, left screenshot) provides a minimal amount of information and represents data that cannot be removed from the display. As such, the Base display does not provide enough information for safe navigation.

The 'Standard' display (Figure 5, centre screenshot) incorporates the Base display plus additional features to provide a more appropriate display for safe navigation

ECDIS route planning tips

1. Screen into 'large' or 'planning' screen format.
2. Orientate the chart to show the beginning and end of the route to get a 'big handful' feel for the route.
3. Create a blank canvas by hiding all old routes, constructs etc.
4. Begin with waypoint plotting in the general area of the start and end of the route.
5. Select either Rhumb Line or Great Circle route etc.
6. Zoom in to a more appropriate scale to modify the start and finish waypoints and 'massage' way-points to account for TSS etc.
7. Ensure that you have adequate XTD for the various legs of your route to take into account the nature of the environment and expected possible deviations, lateral separation from the route and collision avoidance.
8. Check Zones of Confidence (ZOC) or Source Data Diagrams and amend the route or highlight as necessary.
9. Set Safety Depth and Safety Contour values.
10. Conduct a system check of the route at an appropriate XTD to allow for deviations, collision avoidance etc.
11. Once all alarms have been checked and verified, check the route in its entirety on 1:1 scale by manually scrolling along it.
12. Add relevant additional information and manual corrections.
13. Double check Distance / ETD / ETA and Tidal Constraints.
14. Protect the route as necessary and save a back up.
15. If updates are installed prior to sailing or during the execution of the route, ensure that the route is checked again, as updates may affect it.

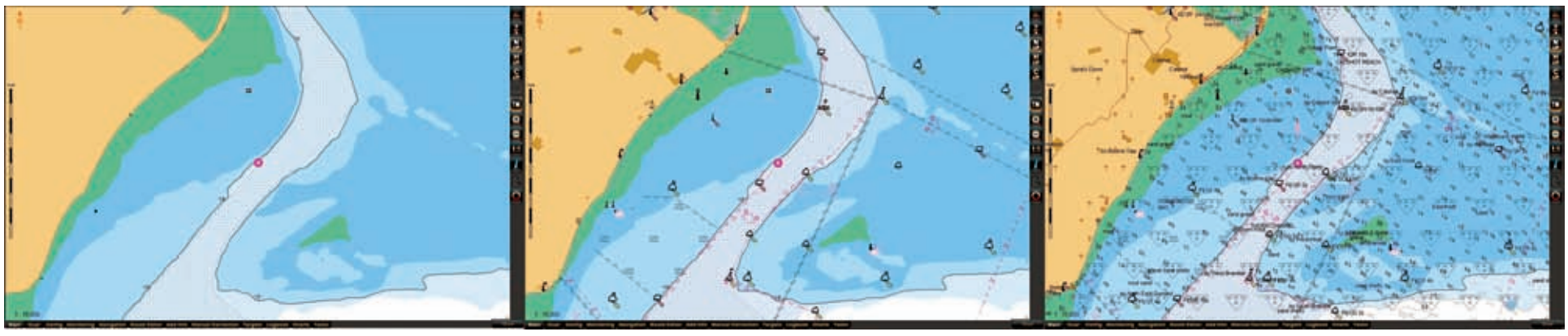

Figure 5 – 'Base' display, 'Standard' display, and 'All Other' display

(note it does not include Soundings).

The 'All Other' display (Figure 5, right screenshot) presents all layers of data and I would suggest that this provides too much information for effective navigation. This is because the volume of data shown clutters the display making it difficult to see safety critical information.

Therefore, most manufacturers provide an extra display category, normally called 'Custom' that allows the operator to configure their display to incorporate information between Base and All Other.

Some systems also allow the saving of such displays so that the operator can customise displays for all environments such as Pilotage, Coastal, Open Ocean, Anchoring etc., selecting them as and when required.

However, due to the sheer volume of settings and configuration that is possible, it is recommended that check-off cards be produced to cover all environments. Remember, too much information is as dangerous as too little.

The system auto-filter also means that unless you are navigating on the best scale chart, you will not see all the information available for display. Therefore, when zooming out the system will automatically deselect certain features from display such as Soundings, Lights and Topographical detail.

The only way to ensure that your display is not affected by SCAMIN (Scale Minimum) is to always ensure you are navigating on the best scale chart! It is therefore essential that the operator knows how to select the best scale chart on their system.

Positioning and navigation

The ECDIS system tirelessly fixes and records ship position based upon the primary fixing system (GPS or DGPS), whilst searching the track ahead for risky or even dangerous conditions such as Traffic Separation Schemes, charted wrecks and shoal patches.

The system is also capable of loading charts automatically as you execute your passage, based upon ship position.

Additionally, ECDIS also offers high levels of confidence by fusing different fixing modes (GPS/Visual/RIO) into one display. Manual fixing functionality is also provided, although some systems provide more functionality in this regard than others.

If the positional information is accurate, the system can be used to give valuable information about a ship's position when turning in confined conditions.

Some manufacturers have developed precise navigation tools such as the Docking Mode function that allows detailed information on the forces at work on the vessel to be viewed in a separate panel.

Furthermore, functions such as a Predictor can also be used to predict the future position of the ship based upon real-time influences on the vessel such as wind, tidal stream, acceleration and deceleration and Hydro-dynamic data (see Figure 6, next page).

When used correctly, both are excellent tools to reassure the operator of what is being seen out of the window – "this looks a bit tight, we need to put more wheel on – ECDIS concurs..."

ENC updating

The days of updating and correcting charts in the charthouse are numbered, but do not ditch those tracings just yet.

In my experience the one component of ECDIS that is guaranteed to ruin your day is the inability to update your system or install charts. Remember, it takes time and system knowledge to complete installation and updating effectively.

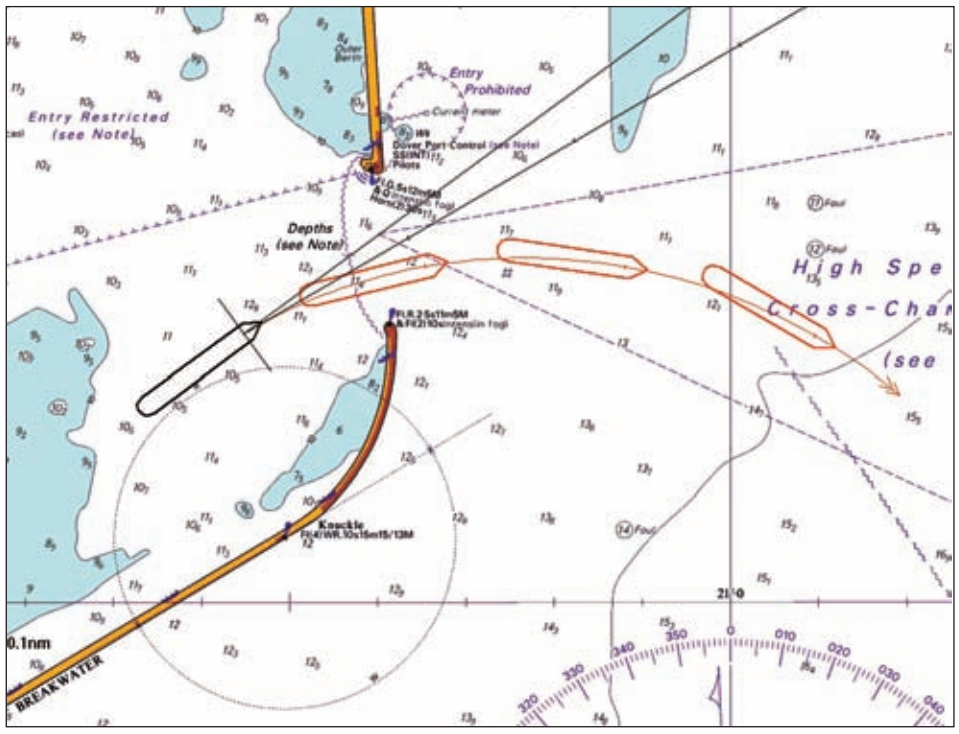

Figure 6 – Predicting future position

It is worthwhile timing how long it takes your system to conduct a small and large update so that you are aware of the timescales involved. Remember, after updating the system you will need to check your route again to check for new dangers.

Ensure that you are getting your weekly permit updates and that they are updated prior to any charts. Furthermore, be extremely careful when using USB sticks and CDs to transfer information between systems and computers as ECDIS systems lack virus protection.

It is recommended therefore that the transfer of information between systems only occurs within the LAN and that any USBs or CDs are virus checked prior to being used.

It is also prudent to back-up your system regularly. This undoubtedly needs to be carefully controlled in ship's procedures.

If you are considering linking your ECDIS to the internet for chart updating purposes, consider the following:

- Do you need to? Do you have an adequate feed of information from navaids such as NAVTEX and a system in place to plot it on the ECDIS? If so, do you require such a connection?
- How effective is the anti-virus firewall? If operating ECDIS and a virus prevents the ship from sailing (or worst case causes an accident) the decision to link to the internet will soon be questioned.
- Will the system cease safety monitoring for the period it is updating?
- What is the cost of updating via internet connection?
- Will the system automatically highlight new updates so the operator can view their relevance relative to the planned route?

ECDIS systems are designed and built by engineers. This is not a derogatory statement, but it is my opinion that more current mariner knowledge is required in order to provide the mariner with a better, more user friendly product.

The systems contain far more functionality than is needed and are not yet as ergonomic and user friendly as they could be. Moreover, inadequate training is responsible for a large number of collisions and groundings as operators are over-reliant on ECDIS and simply do not understand the shortfalls of such systems.

However, ECDIS systems are a revolution and do go a long way in making navigation safer and easier, but only if:

- The operator uses the system correctly.
- The operator configures the system correctly.
- The operator understands the capabilities and limitations of the system in use.
- The operator is not over-reliant on GPS or on the ECDIS system.
- The operator utilises spare capacity by looking out the window and assessing the integrity of navigation aids and equipment.
- The operator manages and supervises the system adequately.

Like it or not, ECDIS is coming and for most deck officers it is a case of embrace it or risk becoming irrelevant on the bridge of a ship.

For both types of mariner I recommend confronting the problem head on by conducting approved training and learning as much as possible about these systems. It is cringe worthy but true - train hard, navigate easy! **DS**

About the author

Malcolm Instone is director of operations and standards with ECDIS Ltd, a company offering advice on various aspects on the transition to ECDIS, as well as a range of accredited training courses (www.ecdis.org). Screenshots used in this paper are courtesy of Transas and Kelvin Hughes.

The e-revolution in navigation

IMO's e-navigation plan, under discussion for many years already, is slowly closing in on having an agreed implementation plan. *Dr Andy Norris* looks at some of the fundamental aspects of e-navigation, and the central role of technology in the whole system

IMO is on course to agree the implementation plan for e-navigation by the end of 2012, having been working on the concept since 2006.

Through necessity, e-navigation will be an evolutionary process but eventually it will revolutionise the way that ships are handled and navigated compared to the practices in use today.

To many this could be a surprising statement. Surely e-navigation is built around user requirements and these are firmly based around existing practices?

User requirements are typically embraced by such aspects as the improved integrity of displayed information, the increased reliability of equipment, better alert systems, better access to up-to-date planning information and greatly eased use of equipment with a minimal need for ship-specific familiarisation training.

However, it is clear that if e-navigation can satisfactorily meet such requirements, it could also provide the basis for a radical change in how ships' navigation is performed, even if lying outside IMO's present strategy for e-navigation.

A fundamental job of the human navigator today is to be the integrator of diverse navigational inputs to ensure consistency and therefore integrity.

Once this task can be performed better, in all respects, by electronics rather than humans, then many of today's navigational practices may quickly become outdated.

Human error

Fundamentally, e-navigation is part of the ever-increasing concentration being undertaken in all transport sectors to minimise the effects of human error on safety.

Many scientists and engineers around the world are engaged in such activities and public awareness, and even insistence, on using technology to eliminate accidents caused by human error will inevitably grow.

As an example, automobile manufacturers are increasingly announcing demonstrators with remarkably advanced automated features designed to ensure safety, even in extreme cases of driver inactivity or misjudgement.

This is eventually likely to promote a growing public acceptance and maybe even demand for increased automation across the whole transport sector, perhaps as early as the 2020s.

So maybe the eventual pressure for fundamental change in ships' navigational practices will come as much from outside the profession as from inside.

It is essential that e-navigation can evolve to meet such inevitable pressures, but initially it has to meet the fundamental requirements of today's users.

In fact, the infrastructure to enable e-navigation is unlikely to be really getting underway until the middle of the present decade and will probably not have a major effect on carriage requirements until the early 2020s.

The apparently long timescales are perhaps underlined by the carriage requirements for ECDIS, which even by 2018 will not be mandated for all ships. ECDIS, and its future evolution, is an essential component of e-navigation.

Digital world

E-navigation has to properly embrace the evolving digital world.

Unfortunately, we have entered the ECDIS era where much of the supporting data, such as sailing directions, remains paper based and even that which is digitally available is often in a book-type format on the screen, which does not always allow quick and easy reference.

The goal of e-navigation is to utilise technology to prevent accidents by removing human error as far as possible. Photo: ATSB

A significant part of the e-navigation infrastructure programme will be to provide the data structures and protocols that enable all data to be readily communicable and accessible. Ensuring that the information is up-to-date and of high integrity are other key necessities.

Initially, such automatic systems will ease mariners' planning tasks and may provide some checks on the consistency of planning decisions. Inevitably, they will allow an ever-increasing automation of the planning process.

In particular, with the increased sophistication of the ship/shore communications links envisaged by e-navigation, a ship's planning process could become actively integrated with those of port and coastal authorities, both during the initial planning process and when underway.

Mandatory reporting activities would benefit from such integration and could be totally automated. Safeguards will need to be incorporated to allow coastal authorities to ensure that they are not being spoofed by false reporting.

E-navigation could also permit a seamless integration with the pilotage phases of the voyage, potentially enabling an automatic exchange of information between the master and the pilot prior to boarding.

An onboard workstation could potentially be configured to 'pilot mode', with the pilot knowing that all required local data would be available through the e-navigation communication links.

Into the more distant future, it could be that piloting, through the e-navigation structure, could be effectively conducted from the shore and that the bridge team's main role is to ensure that the ship precisely follows pilotage instructions. That possibility would certainly create some debate!

Integrated Navigation Systems

To obtain higher integrity and availability of real-time navigational parameters such as position, speed, heading and course, e-navigation will surely require the use of an advanced integrated navigation system (INS).

It is becoming possible to design a reasonably affordable dual-redundant INS that would provide navigational parameters with a very good estimation of the magnitude of the instantaneous errors, such that an alarm would be reliably sounded if a particular error limit was reached.

In the fullness of time, especially when systems are included that could provide a reasonable estimate of position when satellite position was denied, use of such an INS could totally alleviate the onus on the OOW to be performing manual checks on position.

The prospect of high integrity positioning also creates the possibility of a revamped high integrity AIS as part of a future e-navigation world.

This would conceivably allow 'enhanced' AIS to be used as the major source of data for collision avoidance decisions, at least if supported by high definition radar and perhaps even by new electronic aids operating in the visual spectrum.

It is the lack of integrity of present-day AIS that prevents it being used as a primary aid for collision avoidance.

Perhaps it is surprising how little use has been made of optical detection at sea, given the significant role that the human eye has in current navigational practice. Automatic target detection and accurate coastal positioning are certainly feasible using optically-based instrumentation.

In the eventual future, any navigation by 'looking out of the window' could conceivably even become frowned upon simply because of its relatively low integrity, accuracy and availability compared to the possibly available electronic systems.

But today, visual navigation remains necessary and important, simply because present-day electronic instrumentation is not able, on its own, to provide a complete and reliable depiction of the navigational situation.

Machine integrity

A glimpse of the future pressures on the integrity of modern electronic navigational equipment has come from recent concerns from maritime administrations on the hazard warning alarms of some ECDIS equipment, under certain conditions.

In particular, there was an observed inability of some ECDIS equipment to identify all potential hazards when set to automatically check an initially planned route.

There is no doubt that such equipment must be designed to always do this correctly, and so action to resolve the observed problems was obviously urgently necessary.

Despite this, an automatic route check on ECDIS rightly remains as being supplementary to the currently essential full manual check for charted hazards when planning a voyage.

However, because of the increased vigilance on the automatic checking processes of ECDIS, it will inevitably lead to a future when the proven integrity of the automatic check far exceeds the integrity of an average manual check.

It may then be argued that manual checks become superfluous – at least for checking there are no problems with charted hazards on the planned route.

The route also needs to be planned and checked against many other sources of information other than that contained within the ENC. Such checks, for instance, include compatibility with the latest Maritime Safety Information, sailing directions, tidal stream data, weather data and port information.

Today's navigator has access to all this information, albeit often in a clumsy format. The e-navigation user requirement is for such data to be readily accessible and to be more easily used for ECDIS-based chart activities.

When e-navigation makes such data available in an accessible form for the user it could also prove suitable for increasing use by automatic systems.

It then gives the prospect of the complete route planning process being fully automated – and that would certainly be a major change to current practice... 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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