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www.thedigitalship.com

InterManager KPIs

The International Shipmanager's Association, InterManager (previously ISMA), is moving ahead with its ambitious scheme to develop a shipping industry wide scheme of Key Performance Indicators (KPIs).

Discussing an industry wide KPI system - InterManager executive committee. Dr Dirk Larsen, Chemikalien Seetransport; Stephen Chapman, InterManager secretariat; Rajaish Bajpaee, Eurasia; Andreas Droussiotis, Hanseatic Shipping; George Hoyt, Newslink Services (also at meeting but not pictured: Dirk Fry, Columbia Shipmanagement; Svein Sorlie, Wilh Wilhelmsen)

The KPIs are planned to be an industry yardstick, enabling charterers, shipowners, insurance and port state control and other stakeholders to see at a glance how good the ship operator is at different aspects of ship operations.

This should enable the shipmanagers to be rewarded financially for aspects of ship operations which are extremely important but have not in the past led to immediate benefits in the company bottom line, such as spending on maintenance and training.

It should also provide the shipmanagers with a standard set of KPIs to establish industry benchmarks, as well as encourage them to strive to continuously improve their own performance over their previous achievements.

"As the standard set of KPIs will be developed in consultation with, and after taking onboard the principal concerns of all stakeholders, the KPI regime should be acceptable on a pan-industry basis and will help to move the regulatory focus away from the present "compliance culture" to self-regulation with verification", says Rajaish Baipaee, president of InterManager.

InterManager has not yet defined what the KPIs will measure and how they will work; but it believes it has built the foundation for industry acceptance of the scheme and a methodology for how they will be defined.

New market dynamics

The KPIs should help drag the shipping industry from its current regulatory compliance trap, to a situation where companies are actually rewarded for the efforts they make.

The problem with the compliance system is that most ship operators are judged based on their ability to comply with a complex set of rules at the lowest cost.

Charterers who want to have a ship which is better than the minimum have no concrete means of differentiating it; so they end up taking the cheapest vessel which meets the regulatory standard, a system which leaves both charterers and managers frustrated.

There are inevitably substandard ships which get through the regulatory net somehow; with the shipping industry being regulated by 180 autonomous countries, each supposedly being treated equally, but with very different government attitudes to regulation it is impossible to make it watertight.

When accidents happen,

continued on page 2

IN THIS ISSUE

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ABC

continued from page 1

regulators around the world take it upon themselves to create more rules, which just makes the situation worse; shipmanagers spend all their time trying to keep up with new rules rather than safely operating their ships.

If every ship operator could provide KPIs of their performance, then charterers could easily differentiate the good operators from the bad one - if they want a good operator, they can find one and pay for it, thus rewarding the quality operator for the efforts they have made.

"A [certain] Philippine shipmanager provides ship management for $30,000 per ship per year," says Andreas Droussiotis, managing director of Hanseatic Shipping.

"For us, to hire a superintendent needs double or treble that amount of money per year."

"How can you make money out of that. These people are substandard. You can imagine the difference in the service that is provided."

"You need a certain size to provide the quality of service you want," he says. "You have to invest in shore training, IT, help the people onboard."

How they will work

Initially, all of the InterManager members will use the standard set of KPIs, enabling them to benchmark their performance against each other, and demonstrate what their performance to charterers and regulators.

Over time, InterManager hopes that more shipping companies will collect KPIs about their operation, and charterers will start asking shipping companies what their InterManager KPIs are before chartering.

Charterers will be able to differentiate the good from the bad firstly by whether or not they actually have KPIs available, and secondly what the KPIs are.

The scheme has a strong element of trust / self assessment, in that it will not be possible for charterers to independently verify that the shipping company is telling their truth and calculating their KPIs honestly.

However it will be possible for charterers to verify any aspects of the KPI calculation if their suspicions are aroused from unexpectedly high accidents or port state control detentions.

Companies involved in the scheme to define the KPIs include Anglo Eastern, Barber / Wilhelmsen, Chemikalien, Columbia, Dobson, DS Schiffahrt, Eurasia, Fleet Management, Hanseatic Shipping, Jebsen Management, Navigo Shipmanagers, OSM Group, Stolt Nielsen, TESMA, Thome, V.Ships, Viken and Wallem. It is being led by Svein Sorlie, senior vice president, group business development, with Wilh Wilhelmsen.

InterManager has not yet decided in great detail how the KPIs will work. The methodology for developing pan-industry KPIs has been identified, and InterManager is now on the verge of taking the pilot project to all industry stakeholders to develop a standard set of KPIs acceptable to each stakeholder. These could cover items such as injuries, offhires, number of port state control deficiencies and a batch of other performance indicators.

It wants to develop a set of KPIs which meet the needs of all of the different organisations that want to judge the quality of a shipmanagement operation - including oil companies / charterers, insurance and port state control.

It has not yet defined how many KPIs there will be, or how the scales will work, or whether they will be centred around specific ships or specific companies, but the stress would on the KPIs to be easily collectible and measurable.

"Our members will follow the KPIs definitely first. You will see how you stand in comparison with the others," says Andreas Droussiotis, managing director of Hanseatic Shipping.

"Then oil majors will say, I chartered a vessel, I need the KPIs."

Ultimately, Mr Droussiotis hopes that the KPIs might replace all of the other systems used to monitor ship operator's performance.

"If we convince oil majors to accept InterManager's KPIs, all their forms won't be necessary," he says.

Mr Droussiotis believes that the KPIs will offer an illustration of performance in the future, and show the company's current performance, not just past performance.

For shipping companies to offer potential customers indicators about their performance is a major step towards building up more trusting relationships with regulators around the world.

This, in turn, should help kill off some of the most serious problems that the industry faces, including endless regulation from various different agencies, some of it impossible to implement, and the possibility of making seafarers criminals due to things they do not have control over.

Selling the standard

InterManager hopes that the whole shipping industry will buy into the scheme.

"To become a standard you need a broad acceptance - its got to be something the rest of the industry commits to," says Svein Sorlie, senior vice president group business development with Wilh Wilhelmsen, who is co-ordinating the scheme.

"Its no use if the rest of the world says 'so what.'"

"All the sponsor group

companies have been out talking to their customers to sell the idea for such a standard," he says. "We have put down a very solid foundation - through work by the members of the group - and have communicated basic ideas."

"We need to build a foundation for industry when it comes to measuring. I think there is industry wide acceptance of the need for a standard."

change - it is a deep routed change," says InterManager president Rajaish Bajpaee.

It has announced plans to set up sub-committees looking at manning and training, security, technical issues and best practise guidelines. It will also set up a permanent secretariat with full time general secretary and administrative staff.

Members include Arab Shipmanagement, Hanseatic, Belchem Singapore, International Shipping Partners (USA), Chemikalien, Navigo, Columbia, Terra Marine, DS-Schiffahrt, Thome, Eurasia, IRISL and Wallem, and a number of associate members from the supply chain and other industry associations.

The fundamental aim of InterManager is to contribute to the environmental, safety and quality performance of shipping companies, which does set it apart from other ship owner associations, which more represent the interests of shipowners.

"By being a member, you commit yourself to this," says Andreas Droussiotis, managing director of Hanseatic Shipping.

The organisation will aim to "harmonise the voice of the global shipman-

Dovetailing with TMSA

The InterManager KPI initiative does actually dovetail very well with TMSA, the Oil Companies International Marine Forum (OCIMF) Tanker Management Self Assessment (TMSA) scheme.

TMSA does not ask shipping companies for their specific performance on various issues - but it asks them to monitor KPIs themselves, demonstrate continuous improvement and benchmark their performance against other shipping companies.

One big difference is that TMSA is more concerned with accidents which might happen in the future, rather than past performance.

For example, shipowners get higher scores in TMSA if they have procedures in place for handling "change management", changes which might occur to the company structure or new requirements, so oil companies can make sure tanker operators are prepared.

The InterManager KPIs, although not yet defined, seem likely to focus more on past performance - how many deficiencies or accidents you had.

Deficiencies and accidents which occurred in the past 12 months are probably due to failures in maintenance and training which occurred in the past 48 months.

Mr Sorlie believes that TMSA and the InterManager KPI initiatives are very different. "TMSA is something else," he says. "It is a standard for process management. It is not contradicting what we are doing, but it is an internal management tool."

"TMSA is a valuable tool to know where you have used management procedures and knowledge."

About InterManager

ISMA is using a new name, "InterManager," rather than the old "ISMA", to herald a new start.

"We want the world to know it is not a cosmetic

agement sector."

Companies must have ISO 9001:2000 to join and be full members - associate membership for other companies and the supply chain.

InterManager aims to build up the membership and provide more value to them.

"We have to also communicate with our members and show them tangible benefit," says Mr Bajpaee. "That is the responsibility of the executive to steer."

Intertanko's view

Digital Ship had an opportunity to ask Intertanko about its views about the InterManager initiative, and measuring performance in general, at Intertanko's annual press conference.

"Metrics are very important," said Stephen van Dyke, chairman of Intertanko. "Progress and improvement need to be measured. There's no question we are interested in aggressive goals, and you've got to have metrics."

The principal metrics by which the tanker industry can be measured , Mr van Dyke believes, is fatalities, pollution and detentions, with the target being zero.

"We want to take leadership - we want to create an environment where the industry strives for these goals of zero," he said. "That's what people want."

Mr van Dyke says he says a big part of Intertanko's role as supplying information about the industry, which helps people to understand and appreciate the efforts the industry is making to improve. "We will be measured on tangible results," he said.

Mr van Dyke is well aware that society around the world is not tolerant of tanker accidents and the industry needs to behave accordingly. "It's not enough to react - we have got to be moving in step with society at large," he said.

Many charterers are using metrics to try to assess ships they consider for chartering, he said. "I think the vast majority of charterers are trying to get the best ship for the best price. They have employed metrics to make sure they get what they pay for."

Peter Swift, managing director of Intertanko, said that Intertanko welcomed the oil companies' Tanker Management Self Assessment (TMSA) initiative, but felt it was too prescriptive, and suited to specific ship types / management structures, not the general tanker industry, although it did not object to anything in it.

Mr Swift pointed out that the focus of TMSA was on assessing management systems for achieving improvement, which was not necessarily the same as achieving zero fatalities, detentions and pollution, because a shipping company with a management system which scores very well can still have an accident.

"Our focus has been on the outcome, in terms of better value, better safety, better results," said Mr van Dyke.

Mr van Dyke said he did not necessarily expect to see a reward from charterers for better performance; shipowners should receive enough reward from having less problems. "Fewer accidents, fewer injuries, no pollution incidents, is an economically rewarding experience," he said.

Poseidon challenge

Intertanko has made a challenge to all the groups which are involved in the tanker industry, which it labels "The Poseidon Challenge," to identify ways to improve.

It will hold a meeting in Singapore in March next year where the different groups will state what they plan to do, and another meeting in 2-3 years time where the different groups will report on their progress.

"We want those who do support us to establish goals and metrics to take us to the next highest level," says Mr van Dyke. "People always respond to a positive challenge."

"We are bringing together those who do want to make a public commitment of respect for the sea and respect for the world's peoples," he said.

"It is an invitation - we're not requiring or insisting that anybody shows up," he said. "But a lot of people are committed to the same kinds of things we are."

"The Poseidon project could be a success if the people do a quarter of what they want to do," he said.

Different groups have already stated areas they would like to see improvement. Shipyard groups have asked for more feedback from shipowners; pilots groups have said they want to improve information exchange between masters and pilots; flag states have said they want to improve communications between flags; and ship recyclers are asking for more data about their vessels.

All the groups will present their views on what they think can be improved in their sectors in Singapore.

"I don't know if there's another industry which has operated so much in the public spotlight," said Mr van Dyke. "We don't get attention for what we do successfully every day."

"Our job is to do it right every single time. We are in a rubber meets the road business. The bottom line is - each of us has to accept responsibility for what we deliver."

Flag criteria

As a new membership metric, Intertanko plans to involve the IMO flag state audit in its membership criteria.

"Our membership criteria means our members can only choose flags which have undergone the audit and been satisfactorily assessed," says Peter Swift, managing director of Intertanko.

IMO is planning to allow all flag states to undertake a voluntary audit, as to how well they have ratified IMO resolutions.

IMO is, itself, a forum for flag states to make agreements between each other about how the maritime industry should be regulated; it has no power over the flag states as such, and so cannot force flag states to do anything. For this reason IMO felt that the flag state audit could not be mandatory.

Many flag states, particularly the lower performing ones, are more like businesses, with their primary focus being earning money from registration fees from the shipowners which flag with them, rather than serving the people of their country.

For Intertanko to say that all of its members will only flag with flag states which have agreed to undergo the audit gives a strong incentive to these flags to agree to this condition. DS

Iridium 35% crew calling holiday discounts

www.iridium.com

Iridium has announced plans to offer a 35 per cent discount on crew calls placed using pre-paid crew scratch cards made on holiday periods, as well as the first day of each month and weekends.

For this year's holiday season, the Family First discounts will apply on Dipawali (Nov 1), Eid al Fitr (Nov 4), Christmas (Dec 25) and New Year's Eve (Dec 31).

Crew members' calls are priced at a single flat rate per minute, regardless of the time of day or location.

The personal calls are automatically separated from calls made for ship's business, eliminating the administration required in manually accounting for crew calls.

The discounts are applied automatically and are in effect for 24 hours based on GMT, regardless of the location of call origin or termination.

Swedish Coast Guard install CommBox

www.virtek.no

The Swedish Coast Guard have begun installing the CommBox communications system by Virtek Communications on some of their vessels.

The Commbox system automatically routes all communications through the most suitable path, including GSM and satellite, and manages the shipboard computer network.

The system is already operating on 5 ships and is intended to be installed in a majority of the fleet in years to come.

"The overall requirements for the (system) is that it shall act as an invisible Black Box in order to connect ships and aircraft onboard IT systems with the Coast Guard's shore based IT network", says Hans Olofsson, IT manager, Swedish Coast Guard.

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2nd Inmarsat I-4 satellite launch

www.inmarsat.com

The launch of the second Inmarsat I-4, one of the largest and most sophisticated commercial satellites ever launched, was completed at 2.07pm on November 8, and was pronounced as a success directly after the event.

It is the second in a planned three satellite constellation, a result of eight years of development and $1.5 billion of investment which will support the company's existing and next-generation broadband services.

The launch was conducted from the Sea Launch marine platform, launched from the middle of the Pacific ocean on the equator at 154 degrees West.

All phases of the flight profile performed as expected, Inmarsat said, with the satellite placed satellite into a geostationary transfer orbit. A ground station in British Columbia, Canada, acquired the spacecraft signal 25 minutes after the launch.

The satellite is currently in orbit 35,786 kilometres (22,237 miles) above the equator, over northern Brazil.

When all three satellites are launched, Inmarsat should be able to provide broadband connectivity almost anywhere in the world, with coverage calculated to be 85 per cent of the world's surface (not including polar regions) and 98 per cent of its population.

The second Inmarsat I-4 satellite is successfully launched from its offshore platform. Photo courtesy of Sea Launch

Fleet Management wins technology award

www.fleetship.com

Hong Kong ship management company Fleet Management has won first place in the "Technology Innovation" category of the tenth annual Best Practise Awards, organised by New York-based Technology Managers Forum.

Fleet Management won the award for its in-house developed Planning and Reporting Infrastructure "PARIS" which allows all 130 ships under its management to directly interface with computers in its Hong Kong headquarters and other ground offices.

"We believe we are the first company in the world to have a fully distributed two-way synchronising maritime system covering all aspects of onboard ship management," says Kishore Rajvanshy, managing director of Fleet Management.

Mr Rajvanshy credits the new system with helping increase its number of ships under management from 100 to 130 in the past 12 months.

Seafarers can use the same software applications which owners and managers use, which, Fleet says, leads to greater operating efficiency on the ships and better decision-making in the office.

The software is written in Java, with a MYSQL database, with Red Hat Linux operating system. Data is sent from ship to shore in zipped xml files.

ACR and Inmarsat agree deal for replacement EPIRBs

www.acrelectronics.com

ACR Electronics has reached an agreement to sell more than 1,000 GlobalFix 406 EPIRBs (Emergency Position Indicating Radio Beacons) to Inmarsat, in a contract that ACR says "may reach $1.3 million."

The GlobalFix 406 EPIRB

They replace the Inmarsat -E EPIRBs, made redundant following Inmarsat's phase out of the -E service.

The replacement program will commence on 1 January 2006, and users will be contacted individually by Inmarsat to provide them with full details of arrangements for the replacement program.

Brian Mullan, head of maritime and aeronautical safety services, Inmarsat, and Dennis London, European sales manager, ACR, at the contract signing

NSSL expands broadband coverage

www.satcom-solutions.com

UK-based satellite communications provider NSSL says that it has extended its maritime broadband services coverage to incorporate the entire US land mass, Canadian west coast, Alaska, and Hawaii.

The service also covers the Caribbean, Europe, Latin America, the Mediterranean, the North Sea and the parts of the Atlantic Ocean.

The service runs over Inmarsat satellites on the North American East coast, the PanAmSat Galaxy 10-R satellite over the Canadian West Coast, Alaska and Hawaii.

One notable customer is MY Lady Marina, one of the world's most luxurious super yachts, with seven guest rooms and a crew of 18.

There are three different airtime packages: economy (512 kpbs to ship and 128 kbps from the ship) for $1,750 per month; standard (1 mbps to ship and 256 kbps from ship) plus 2 voice lines (VOIP) for $3,050 per month; and premium, with 2 mbps to the ship and 512 kbps from the ship, up to 4 VOIP lines, for $5,700 per month. The cost per megabyte download to the ship equates at $1.25 per megabyte on the economy package. The shipboard equipment cost is estimated at $36,500 per month.

The service includes data encryption as an option; shipboard firewalling; VoIP calls at $0.25 per minute to the US and UK; reduced price service during up to 3 months a year when the vessel is not being used; system checking by NSSL every 5 minutes; 24 months warranty including onboard labour.

NSSL says that it waited until it felt that the technology was robust enough before launching the system. Sally-Anne Ray, sales director, NSSL, claims that interest in competitor's products "slowed when the inefficiencies of technology highlighted certain weaknesses," she says.

WorldLink new ShipForms version

www.wlnet.com

World-Link Communications has released a free new version of its ShipForms application with the mandated West European Tanker Reporting form (WETREP), which was adopted during the Maritime Safety Committee's 79th session, and implemented on July 1, 2005.

Shipping companies can use the software to automatically complete and fill out the form onboard, only sending the vital data, to minimise expensive satellite communications costs.

It can be downloaded free of charge from World Link's website.

It follows the first ShipForms tool, to electronically submit the mandatory US Coast Guard form for Notice of Arrival and Departure (eNOAD).

The WETREP regulations are mandatory for every kind of oil tanker of more than 600 tons deadweight travelling to or from destinations within an area defined as the West European Sensitive Sea Area.

The forms must be submitted under three different situations: when submitting a sailing plan, when leaving an area, or to report a deviation.

The master indicates which form type he wants to fill in, and then only has to fill out the specific fields of the form with new information.

The software automatically shows the shore station nearest to where the ship is, with all their communication details (fax, e-mail, Inmarsat-C) so the master can send the station that form.

SeaWave buys Rydex from Inmarsat

www.seawave.com

SeaWave has acquired the intellectual property and technology assets of Rydex, the maritime ship-shore data communications business headquartered in Vancouver, previously owned by Inmarsat. The combined company now has a customer base of over 2,000 vessels.

SeaWave has not yet announced what it plans to do with Rydex, but is expected to start making its products available as installable software as well as pre-packaged computer units.

Marlink @SEAmail version 6

www.marlink.com

Communications company Marlink has released version 6 of its ship shore email system @SEAmail, with this version supporting e-mails sent by Inmarsat Fleet MPDS.

The new version has more flexible administration and billing functions, Marlink says. Access to the e-mail account is directly available over the internet.

The software also supports communication by Inmarsat A, B, Mini-M and Fleet, as well as Iridium and Thuraya, and is compatible with GSM, PSTN and ISDN. Messages are automatically compressed.

World-Link releases ShipMail III

www.wlnet.com

World-Link has released the latest version of its ShipMail messaging software.

It held live demonstrations at Maritime Cyprus and NEVA in St Petersburg, illustrating the transmission time required for a 1.5 MB 'doc' file using the Inmarsat ISDN 64K service with ShipMail III, as well as with three other competing software products.

The company claims that its system is faster than France Telecom Skyfile, Xantic's AMOS Connect, or Rydex's RMX2, with a transmission time of less than 60 seconds, and that file compression sizes are smaller with ShipMail than with any of the other systems.

Track a container - $100 per trip?

www.impeva.com

US company Impeva Technology claims that it will provide a service to shippers for just $100 per container shipment, which allows them to monitor the location of the container during the voyage over the internet, including whether the doors are open or closed, if the doors have been open, if the container has cargo in it, the temperature (for refrigerated cargo) and how much the container has vibrated.

Shippers can also find out if there is someone inside the container (from an infrared camera), if anything is giving out radiation, and if there is any carbon dioxide in the container. The device sends data back to any point on earth via Iridium.

The $100 per trip charge would include delivery and lease of a device which mounts inside the door of the container with an external antenna, and collection of the device at the end of the voyage.

Impeva believes that the cost can approach $100 per trip with mass volume deployments and anticipated device cost reduction.

Impeva has won a contract with the Port of New York/New Jersey to develop the service.

The device is mounted inside the door of the container, and the radome extends outside at the top of the door but remains within the extent of the door header, keeping it inside the container shipping volume (so it does not get crushed by a neighbouring container). All of the sensors and processing are inside the container.

The unit contains a GPS and numerous sensors to monitor things like radiation, infrared heat (indicating someone might be inside the container), vibration, accelerations, carbon dioxide, whether the door is open or shut, reefer container temperature.

The total data sent is expected to be under 1 kilobyte (1000 characters) per day per container, using the Iridium short burst data service which costs around $1.50 per kilobyte.

Impeva has worked out special protocols which can send information about the latitude, longitude, door status, cargo load status, in less than 300 bytes.

As far as the problems with the containers being out of touch with the satellite at the bottom of a stack, Impeva has conducted tests with the unit mounted on the door of a container at the bottom of a stack 5 containers high, with another stack just 4 inches apart.

The container mounted unit has a processor in it, so it only sends warnings over the satellite if there is reason to be alarmed, for example if the door is open or the refrigeration falls below a set level.

This also means that the shipper is only alerted when they need to be, rather than besieged with endless e-mails telling them that things are fine.

The service announcement follows an announcement by IBM and Maersk that they have developed an Iridium based container tracking system (reported in the October issue of *Digital Ship*).

Field trials of the Impeva system will be conducted from December 2005, tracking containers from Germany and Jordan to New York / New Jersey.

250 of the devices will be manufactured, to be used to track around 1,000 trips in the two supply chains next year. DS

Satcoms at Europort

Digital Ship held a one day conference about developments in satellite communications at Europort, reviewing some of the interesting developments with some of the major players

SEAN SCHWINN, director of maritime, Connexion by Boeing, hinted that Boeing will be revising its pricing plans at the end of this year, speaking at *Digital Ship*'s one day conference at Europort trade show, Rotterdam, on Nov 2.

The company feels that its initial pricing model, $2800 per ship per month, is good value, but it wants to develop new packages for shipping companies which do not want to spend this much.

Mr Schwinn acknowledged that the timetable for extending the satellite coverage was going slower than had been anticipated, and the company was developing an "introductory pricing plan" for shipping companies to compensate for the less than anticipated coverage. The pricing will depend on fleet size.

Connexion is considering developing a service where users pay by the megabyte rather than the minute.

It is also looking into a crew service (likely to be similar to the service it offers to airline passengers) where seafarers pay a fixed amount to use the internet for the whole voyage.

Mr Schwinn admitted that the company is still facing regulatory hurdles which stop ships from using the service in national waters (close to coastlines or in port); they can only use it in international waters.

Sean Schwinn, director of maritime, Connexion by Boeing

The company has already been in talks with over 20 countries to try to sort this out, he said.

Connexion plans to set up its maritime service in December this year, and hopes it will make its initial deployments in early 2006. It is currently building up its global support network.

In October 2006, it will sign contracts with Eutelsat for satellite coverage around Africa and the West Coast of South America.

Mr Schwinn said that Connexion anticipates earning 15 to 25 per cent of its total revenues from the maritime sector.

Iridium

Don Thoma, vice president, data business development with Iridium, explained that Iridium could meet the needs of many shipping companies, citing survey results stating that 50 per cent of shipping companies send only 1-5 megabytes of data per month between ship and shore (about 30-50kb a day).

Shipping companies should look at the cost of transmitting the data, as well as the data transmission speed, when assessing a satcom option, he said; to evaluate the best satcom option they need to look at all of their costs.

Shipping companies which just make 100 minutes of calls a month from headquarters to the ship, 100 minutes of other ship calls, and 50 minutes of calls ship to ship, can pay back the investment in an Iridium terminal ($3,300) within 9 months, he said.

Mr Thoma talked about Iridium's RUDICS IP service for sending data. Iridium does not charge for the 9 seconds it takes to set up a RUDICS data connection (after the line connection has been made), so there is effectively no cost for handshaking time.

Current costs are $1.30 per minute data (2.4 kbps, so enough to carry 18 kilobytes); $1.30 per minute for voice calls; and under $1 a minute for Iridium to Iridium calls, for example if the shipping company has connected an Iridium terminal to its headquarters switchboard.

Iridium currently has over 137,000 subscribers, he said, with an 11 per cent increase in subscribers (and 27 per cent increase in revenues) in the first half of 2005 compared to the previous year. Currently it has four times more subscribers in the commercial sector than the defence sector, and is signing up 2,000 to 3,000 new subscribers every month.

The company's business plan includes provisions to start replenishing its satellites from 2014, Mr Thoma said.

Mr Thoma said he was unable to reveal what Iridium's specific revenues are, but the company has been able to reveal this to some of its clients, who have signed a confidentiality agreement.

Don Thoma, vice president, data business development, Iridium

Speaking privately to *Digital Ship* after the conference, Mr Thoma said that many shipping companies are using a combination of Fleet 77 to send their data and Iridium for voice.

Crew calling is 50 per cent up on last year, he said.

Iridium also later announced that Great Circle Shipping of Bangkok has signed up to use Iridium, via Iridium's distributor SingTel. It will fit Thrane and Thrane Iridium terminals in 34 of its bulk cargo carriers, to be used for ship's business and crew communications, covering both voice and e-mail.

Telemar

Lars Brodje, managing director of Telemar Scandinavia, talked about Telemar's services to support shipboard PCs and communications, for an annual fee of Euro 15,000 including service.

Lars Brodje, managing director of Telemar Scandinavia

The company is currently installing a number of large C band VSAT terminals on ships, with a radome 4.2m high and 3.7m diameter. "You need to install the system when the ship is being built," he said.

Shipping company Wallenius Lines and Finnlines are both installing C band VSAT terminals on all of their vessels, he said.

SeaWave

Mark Witsaman, vice president technology, SeaWave, talked about how the company is developing following its acquisition of ship-shore e-mail company Rydex from Inmarsat. SeaWave is currently serving 2,000 vessels around the world.

Mr Witsaman presented a profile of one of SeaWave's customers, an (unnamed) petrol transporter in the Gulf of Mexico, who wanted to use the system to enable shore staff to manage the shipboard computers and software updates.

A major benefit of the system is that it makes it much easier for shipping companies to choose the best of the available options for sending data from ship to shore. Also, if one piece of satellite communication equipment breaks, they can move seamlessly to another.

"You're faced with all these handsets, thinking 'which systems could I use now'", he said.

Mr Witsaman talked about SABR, the company's address book replicator, which enables everyone in the company, including on the ship, to access the same address book.

Mark Witsaman, vice president technology, SeaWave

SABR is also a very useful anti-spam feature, because the system can be set to only allow e-mails to be sent to the ship which come from an address in the address book.

The SeaWave Throughput Technology Software gives the shipping company reports about its ship-shore e-mail, including how many messages and how large they were.

Ships normally send and receive e-mail in steady patterns, so it is easy to identify if the pattern changes, for example if a seafarer comes onboard who is sending more e-mails than average.

Dualog

Morten Lind-Olsen, managing director of ship-shore data communications company Dualog, explained how shipping companies could use the latest technology to do more with their satcoms, trying to make ship-shore communications systems which seemed as good as the ones on shore but without making enormous investments.

The communications trends are for more connectivity but with much more data than voice. It is possible for modern satcoms systems to provide for this at reasonable costs, using tools such as Inmarsat Fleet MPDS, he said.

System	Max. BW kbps	Always on	Coverage	Fixed price	Available
VSAT	2000	✓	"Global" Regional	✓	Now
Connexion by Boeing	128	✓	"Near Global"		2006
Thuraya DSL	144	✓	Regional	✓	Now
DVB-RCS	2000	✓	Regional	✓	Now
DVB-IP	2000		Regional	✓	Now
Inmarsat Fleet	128 MPDS	✓	"Global"		Now
Maritime BGAN (Inmarsat 4)	492	✓	"Global"		2007
WiFi, WiMAX	> 2000		In ports		2005 ?
GSM, UMTS	384 / 64		Terrestrial	✓*	Now

The different satcom options explained, in terms of throughput, always on, coverage and availability date - by Morten Lind-Olsen of Dualog

Mr Lind-Olsen presented a table (displayed above) showing the different satcom options, the data speed, coverage, pricing structure and availability.

Mr Lind-Olsen's advice for shipping companies choosing their satcoms was to avoid constricting themselves with long term contracts so they still have freedom to choose, and look at what the system will actually do (provide a solution) rather than the specific satellite technology.

For the most important satcom application, sending urgent messages to the ship at low cost, Inmarsat -C has been available for many years.

The biggest costs are likely to be incurred in trying to get the business to change its communications patterns, he said.

Shipowners should also take as much care choosing a "knowledge partner" who can help them make best use out of their satcoms as they do choosing the technology.

Palantir

Otto Pedersen, chief inventor of Palantir's shipboard software system KeepUp@Sea, explained how shipowners can use the software to get shipboard software set-ups which are bullet-proof.

Palantir has signed up a large number of blue chip clients using the system, including Wilson Shipmanagement, Anders Utkilens, Bourbon Offshore, Dampskilsselskabet Torm AS, Aasen Shipping AS, PGS ASA Shipman, Eimskip, Subsea7 Halliburton, Solstad Shipping, Simon Møkster Shipping, and Rederi et AB Transatlantic.

Morten Lind-Olsen, managing director, Dualog

Altogether it supports 220 vessels worldwide, with 1,000 shipboard PCs. It claims to have never received a single support phone call.

The costs are $35 to $50 per month per PC, including all the new hardware.

Palantir has examples of shipowners who upgraded the software on their entire fleets just by sending ready installed PCs and CD-ROMs to the ships, but not needing to send any IT personnel.

It also builds vessel servers in the office and delivers them to the ship, which automatically configure any PCs which are connected to them onboard with the official company software.

If anything goes wrong, the shipboard staff only need to press one button to get everything back to what it was, and get the data back to where it was at the time of the last midnight back-up, and get the screen icons back to where the company wanted them.

The Palantir software takes care of all the virus updates, reverse engineering the virus software so it can put all the updates on its system, without sending 18Mb of updates.

Palantir has designed a multi-layered backup system, with data backed up every day at midnight to a hidden disk, to tape on the server, and to a writeable CD-ROM disc on local computers.

The backup system can be operated by seafarers; Palantir says it is much easier to operate than typical shore side back up systems.

If the worst happens and the PC needs to be replaced, the seafarers just need to find another one, and they can load up all the software from two CDs or reload a new PC from the vessel server, and then the last data from the backup drive.

The software means that companies can employ more senior IT managers who like being at home with their families in the evenings, rather than only being able to rely on younger staff who are happy to jet set around the world at short notice to fix problems.

The shipping company decides on a standard software installation it wants on all of its shipboard computers (eg e-mail, antivirus, office packs, communication software, Adobe Acrobat) and then the Palantir software makes sure that this company approved software always is up

Organising shipboard computers easily - Otto Pedersen, chief inventor of Palantir's shipboard software system KeepUp@Sea

running with the service.

The crew are able to install other software on their local computers, but if this conflicts the approved software. If necessary the new softare can be removed leaving the original software exactly as it was before.

The computers and vessel servers are supplied to the ship with all the software installed and tested. Any further updates can be posted to the ship on a CD-ROM or e-mailed, with all installations and uninstalls happening automatically when the CD-ROM is put in the drive, the master on board only need to answer a single question with a yes or no option.

Mr Pedersen got the idea for KeepUp@Sea after his own experience as an IT manager, getting calls in the middle of the night asking him to fix small PC problems on ships (such as a missing Word document). He was told by his employer that they did not have the budget to employ more IT staff.

The company built its fleet from 10 to 27 vessels without getting any more IT personnel, at which point Mr Pedersen resigned.

Mr Pedersen then joined Palantir AS in August 2003, and started the design and developing the software together with his colleagues.

Altobridge

Richard Lord, director of product management with Altobridge, talked about his service to enable seafarers to make GSM phone calls from onboard ships for just 1 euro a minute, when the ship only has Inmarsat or Iridium satellite connection.

Most of the audience were sceptical about whether this could be possible, with the costs of the satcom alone being at least Euro 1.40 a minute.

Speaking to *Digital Ship* afterwards, Mr Lord said that satellite communications companies made a lot of profit on the Euro 1.40 a minute, and he believed they could be persuaded to give up their margins and reduce the prices, giving the profit instead to Altobridge.

Mr Lord also pointed out that there are some satellite communications services (such as Globalstar or Iridium) which cost much less than Eur 1 a minute.

Digital Ship's estimate is that GSM phone calls from onboard a ship using this system are more likely to cost Eur 4-5 a minute (or Eur 1 a SMS message), allowing for a margin to be given to the seafarer's GSM company, the shipping company, a terrestrial GSM network operator, the equipment costs, and allowing for Altobridge to make some profit. Still, this could be a reasonable price in certain sectors. This is a price some people might be willing to pay.

He also pointed out that the system could be used for container tracking, gathering data from container sensor devices over GSM, collating it and sending it to shore as a package, so containers could use GSM tracking devices which would also work anywhere on land, thus creating a new market.

The company has developed a very sophisticated piece of technology which sits on the ship, picking up GSM phone signals and relaying them to shore over the satellite connection.

The antenna is the size of a flattened rugby ball. Altobridge also supplies a Linux server to go with it, which the software runs on.

The company was founded 3 years ago, by a group of executives from a company called Microcellular systems, which had been involved in installing GSM systems on cruise ships.

Altobridge has designed its business for shipping companies which have between 20 and 400 crewmembers or passengers onboard, using GSM phones.

The shipboard equipment costs around Euro 25,000, or Euro 10,000 if Altobridge is allowed a share in the revenue. DS

Original presentations from Digital Ship's conference at Europort can be downloaded from www.thedigitalship.com/presentations.htm

Shipboard GSM for 1 Euro a minute? - Richard Lord, director of product management, Altobridge

Globalstar - Euro 0.32 per minute calling rates in North West Europe

Globalstar now promises Eur 0.32 per minute voice calls in certain European areas, when you commit to buying 800 minutes a month. A plausible offering for maritime?

GLOBALSTAR has re-emerged from the ashes of a Chapter 11 bankruptcy in the United States three years ago to launch a new offensive on the satellite communications market. Since November the company has begun a new marketing campaign to try and differentiate themselves from the competition and capture the interest of some new customers in the maritime sector.

Greg Tees, general manager, Globalstar Europe

"We learned a lot after going through Chapter 11", explained Greg Tees, general manager, Globalstar Europe. "After that we re-did all of our processes and now do things very differently. We've become very customer focused."

Mr Tees explained that soon after he had been made general manager of European operations, he had spent a lot of his time travelling to different countries, meeting the people who he felt could give the company an insight into the requirements of users in the marine sector.

"For the first two weeks in the job, I travelled to as many distributors as possible to find out what the customers were looking for", he said. "I went to boat shows, met with skippers on the boats, and talked to them about their needs."

Voice quality

One of the areas that they have concentrated on as a result is voice quality on calls over the satellite network.

The Globalstar system is based around a network of low-earth orbit (LEO) satellites and regional gateways. Outbound calls from Globalstar phones are directly connected to a minimum of one and a maximum of three LEO satellites at one time, and then delivered to the closest regional gateway for call completion through the public-switched telephone network. Incoming calls follow the same course, but in reverse.

The company has recently done a deal with an independent gateway located in Eastern Europe to extend their coverage area over the continent, and improve their service.

Globalstar feels that the relative proximity of its satellites, and the straight 'up and down' system it employs with its gateway network, enables the voice signals to travel quickly and produce high quality voice transmissions from low-powered satellite devices.

They claim that because some LEO satellite service providers transfer calls between satellites until they are within range of their single gateway, this can result in a high degree of voice degradation, depending on the number of satellite hand-offs needed to reach this one gateway.

"In the future, we will look to continue to expand our coverage with more gateways", said Mr Tees. ""We just completed a new gateway in Florida and have broken ground on another in Alaska, these are company owned gateways, and we are also expanding with independent operators in the Far East."

"At the moment our gateways in North America, Venezuela and Western Europe are company-owned, and the rest are independent. In some markets we have partners and equipment ready to go but the regulatory hurdles are the only hold up."

Globalstar also points to the higher level of throughput on its transmissions as a further reason why they think their phones' quality surpasses the competition.

"We have a data throughput of 9.6kbps, and that's without any data compression software", said Mr Tees. This level of throughput is roughly on a par with a traditional GSM phone. "Iridium (who also deals in LEO satellite communications) has a throughput that is down around 2.4kbps." Globalstar thinks that this difference in quality can play a large part in the success of its marketing campaign.

Transparent pricing

The other major part of a two-pronged marketing strategy, and the area that Globalstar feels is its biggest selling point, is a fixed, transparent pricing structure. As part of this pricing model, which is displayed on the company's website (www.globalstareurope.com), Globalstar offers customers a preset number of minutes and gives them the choice to use those minutes each month or over the course of a year.

The new tariffs, for voice communications within the 'Globalstar Europe Home Zone', have effective rates of Euro 0.32 per minute (if bought in bundles of 800 minutes per month for Euro 250) up to Euro 0.67 per minute (if bought in bundles of 75 minutes per month for Euro 50). This 'Zone' refers to calls originating and received within their European coverage area. Roaming calls (calls originating or received outside this 'Zone') cost between Euro 1.25 and Euro 1.75 per minute.

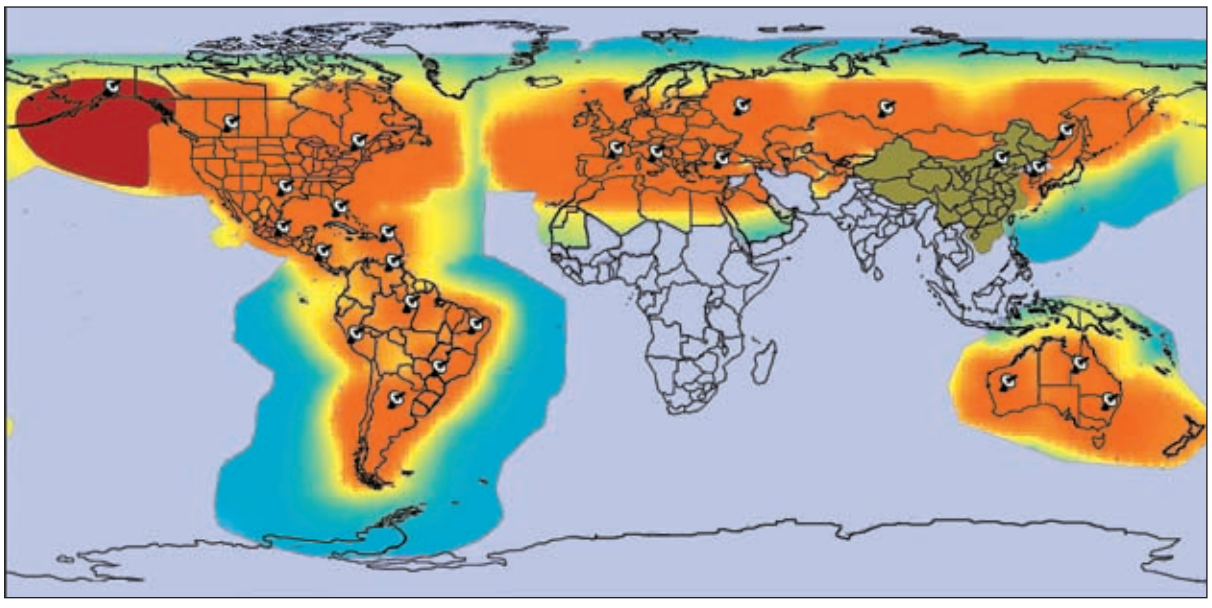
Globalstar still has a confusing roaming set-up based from the old days where different land stations were operated by different companies. The low call costs are only available for calls originating in the user's base station.

Europe has two base stations - one covering West Europe (Iceland to Algeria and France) and the other covering Eastern Europe (Italy, Greece, Croatia). So a caller on the "Globalstar Europe home zone" (West Europe) 32 cents a minute rate would still pay Euro 1.25 to 1.75 for calls made in the Meditteranean East of France.

The Globalstar website also has a 'pricing calculator', where you enter the number of minutes you typically require each month and the percentage of your calls which are outgoing. The calculator will then recommend a package and give you the full costs per month or per year for that package (it should be noted that this also only applies to 'Globalstar Europe Home Zone' usage, and excludes taxes, roaming and long distance calls).

"Pricing models with inclusive minutes are a new phenomenon in the satellite communications industry in Europe, and one that research tells us is highly sought after, particularly within the maritime sector," said Mr Tees. "Our transparent pricing structure will enable ship operators to select the most cost effective plan for maintaining voice and data communications. Having our pricing on the website is a big selling point for us."

Mr Tees feels that if customers can look at the website and easily see an opportunity to reduce their costs, they will take it. "They can do the math", he said. "They can look at their communications bills and see what they'd save per minute, and even with average usage they see that units pay for themselves in less than 12 months."



Globalstar's current coverage map - showing satellite gateways, primary service area (orange), extended service area - may be a weaker signal (yellow), fringe area - sporadic signals (blue), coverage switched off for legal reasons (green), coverage available 2006 subject to approval (red)

Market focus

The company is also focused on providing services to particular areas of the maritime market, those ships that are operating in the areas covered by Globalstar satellites, and is conscious of the fact that it is not a global communications provider.

"We're mainly focusing on very heavy Northern European maritime traffic, and on trans-Atlantic traffic between the EU and the US", said Mr Tees. "There are a lot of ships that only operate in these areas, and they're the people who can benefit from our service."

"On the other hand, if you have a ship that's travelling to the polar ice caps, or around Cape Horn, then our system's not right for you. If you have applications that require broadband, then Globalstar isn't the right data solution for you. We simply have the best voice quality and narrowband data speed; hands down. If we sell to a customer, and our system isn't right for them, it's not good for anyone. But if you operate in our coverage areas, then our system will definitely save you money."

It may be possible to cost-effectively use the Globalstar system in conjunction with another provider in some cases, as the set-up costs are quite low and it may be possible to lower total expenditure by using one system in Europe and another elsewhere, although this would, of course, vary widely for each user.

The Globalstar packages, although not ostensibly sold as a bundle to share across a fleet, can also be set up so that minutes can be transferred between ships that are individually signed up.

"Each boat has to have its own account to be registered and so on", explained Mr Tees, "but essentially a fleet can pool their minutes. For example, if you have10 boats on our Euro 600, 1,000 minutes per year plan, and 1 boat on a Euro1,800, 5,000 minutes per year plan, then all of the 11 boats in the fleet can share the total of 15,000 minutes over the course of the year."

The Globalstar plan of providing a simple, high-quality voice communications system to specific customers operating in a specific area is now underway. They hope that by making their pricing structure as transparent as possible, they will be able to get cost-conscious shipowners to sit up and take notice. "I'm excited about the possibilities", said Mr Tees. It will be interesting to see if the shipping industry will feel the same way.

DS

Professor Nikitakos new AMMITEC president

AMMITEC, the Association of Maritime Managers of Information Technology and Communications based in Athens, has appointed Professor Nikitas Nikitakos as its new president. Professor Nikitakos is associate professor of the University of the Aegean in Greece, specialising in information technology in the shipping industry.

Professor Nikitakos represents Greece at a number of IMO Committees. He is also involved in a number of European Union maritime IT research projects, as a co-ordinator and evaluator, including the SLIM-VRT shipboard computer based training research project.

Recent papers he has co-authored include "The concept of Digital Business ecosystems applied to the Shipping Industry" (Cyprus 2005) and "Improving Formal Safety Assessment in Shipping Transportation" (Portugal 2005).

As president of AMMITEC, Professor Nikitakos will lead a drive to gain new members, provide forums for exchange of knowledge and information, participate in the development of international IT standards.

Professor Nikitas Nikitakos

AMMITEC has adjusted its membership criteria, so that full members can now also be be IT-related professionals from shipping-related non-profit organizations (such as Universities, research centers related to shipping) or public institutions (such as Port Authorities, Ministries).

UKHO ECDIS service "double expectations"

www.ukho.gov.uk

The UK Hydrographic Office reports that take-up of its "Admiralty ECDIS service" has doubled the original forecasts, with customers including the UK, German and Portuguese navies, Reederei Blue Star, Odfjell, Neste Oil, Unifleet and FT Everard.

About 98 per cent of the ships trialling the service have bought full licenses, UKHO says.

Rita Backz, safety officer of Unifleet, says that previously, ship masters would automatically order ARCS because the system was the easiest to manage. Now they can order ENCs and ARCS from the same UKHO online catalogue and make sure they have ENCs when they are available, as they are required to do.

Caption Eion Lyons, maritime director of FT Everard, says he sees the Admiralty ECDIS service as a natural progression, since the company has always used Admiralty products and used the ARCS raster chart service since 1994.

"When the Admiralty ECDIS service was launched we immediately kitted out two of our newer, bigger tankers," he says. "Our main routes are around the UK and Ireland but we also have four 4,500 ton ships being built in China which will carry the UKHO service."

"The advantage is the time it saves; managing working hours becomes significantly easier and they don't get so tired."

Meanwhile UKHO has announced that it is including official Singapore ENCs in the Admiralty ECDIS service.

UKHO has announced plans to work together with SevenCs, which develops ECDIS systems in Germany.

Chevron and Seabulk sign to ShipServ

www.shipserv.com

Chevron Shipping Company and Seabulk International have contracted to conduct all of their tanker procurement business via ShipServ's TradeNet electronic trading platform.

Chevron Shipping, from California, signed on its tanker fleet currently at 25 ships, including the Northwest Swan, an LNG vessel operated by an affiliate of Chevron Shipping on behalf of the North West Shelf Venture Gas Project.

Seabulk International of Florida, who operate one of the largest USA tanker fleets, will use TradeNet for all purchasing for their fleet of ten petroleum product and chemical tankers.

Mitsui O.S.K. tests ship shore network system

www.mol.co.jp

Mitsui O.S.K. Lines (MOL) of Tokyo has started testing an integrated shipboard computer network system, designed to share vessel information between vessels and offices on land.

The system will gather data from onboard container ship MOL Express and send the data to shore.

Tests of the system, developed in co-operation with Mitsui Engineering & Shipbuilding Co. (MES), and MOL Group Ship Management, were scheduled to finish at the end of November.

GAC offer Chinsay software to customers

www.gacworld.com

Shipping and logistics company GAC Group will now be offering the Chinsay Recap Manager ship chartering software tool to the 3,500 shipowners GAC does business with.

Recap Manager is a web based tool for negotiation between shipowners and charterers for including additions or changes to the standard charter party agreement.

The tool can easily be integrated into the ship operations software which shipowners already use, such as voyage management systems.

V.Ships use IMlogic for instant messaging

www.imlogic.com

Shipmanagement company V.Ships has started using IMlogic IM Manager software for its instant messaging (IM) communications.

The software enables instant messaging communication to be made securely with users of both Yahoo! and MSN Messenger.

All the communications are managed, logged and archived, to enable the company to comply with various corporate governance standards, such as Sarbanes Oxley. The program is set up so that it doesn't allow file sharing or personal use.

V.Ships uses a mixture of phone, e-mail and instant messaging to communicate with its customers, suppliers, partners and its operations teams.

"Instant messaging is a valid business practice at V.Ships," says Walter Wilson, group network security engineer at V.Ships.

"Our management team acknowledged this growing use and wanted to ensure its safe and compliant usage in line with our existing corporate internet usage policy, which adheres to Sarbanes Oxley guidelines."

Radio Holland new service system

www.radiohollandgroup.com

Radio Holland is currently rolling out a new service information system, called the "Central Database," over all of its branches, managed by the company's global IT network.

From L-R; Paul van Tongeren, Camiel de Jongh and Wim Nieuwveld from Radio Holland

All branch offices will be able to log into the central database to get information about the ship's past port calls, and service history of shipboard equipment, such as number of calls (per port), first time right ratios, problems and solutions per equipment, warranty, and preventive maintenance actions.

A service call for any port in the world will be automatically processed, transferred and picked up by the branch-offices managing service in a specific area and its related port. The branch-office will be the single point of contact for of the service request to their service partners.

Award for Houston Port Authority

www.portofhouston.com

The Port of Houston Authority's Information Technology department has won the fourth annual AAPA (American Association of Port Authorities) Information Technology Awards competition, for its effort to recognise and highlight best practises in use of IT in administration and operations of port authorities.

The Port uses IT to do mandatory reporting to the Department of the Treasury's Office of Foreign Assets Control (OFAC), to ensure that "no terrorists, narcotic traffickers or other hostile entities" receive compensation.

Radio Holland ship-board network system

www.radiohollandgroup.com

Radio Holland has developed a new shipboard system, MIND, which allows audio, video, monitoring and control, and telephone systems on board vessels to be integrated into the ICT network.

It also enables the control and operation of domestic appliances like lights and blinds, as well as the construction of a wireless computer network (WiFi). The system can be controlled via pocket PC or PDA.

An integrated Voice over IP (VoIP) system makes it possible to connect telephones to the same network, and use a pocket PC as a wireless telephone.

Bureau Veritas approval for AMOS M&P

www.spectec.net

The SpecTec AMOS Maintenance and Purchase system has been type-approved by Bureau Veritas, for use onboard BV-classed vessels surveyed under Planned Maintenance System (PMS), or granted with STAR-MACH additional class notation.

The program is also approved by DNV, Lloyds Register, Germanischer Lloyd and the Russian Maritime Register.

UK short sea handling facilities online

www.seaandwater.org

UK-government sponsored body Sea and Water has launched a website with information about all short sea and coastal feeder services from UK ports, at www.seaandwater.org.

The tool has been developed as part of the organisation's continuing campaign to encourage more freight onto water.

Port-to-port and door-to-door ro-ro and lo-lo services are fully described, as are wet and dry bulk carriers with the potential to operate in and around UK waters.

The system contains a comprehensive database of coastal and inland ports, terminals and related facilities, as well as a series of maps and charts which allow users to view the exact location of all of the services described.

Users can choose to plot sections of coastline or inland waterway while in the site, to view freight handling facilities and how they connect to the internal road and rail networks, and other European destinations.

Looking for a freight handling facility somewhere near London?

Autoship 9.0 released

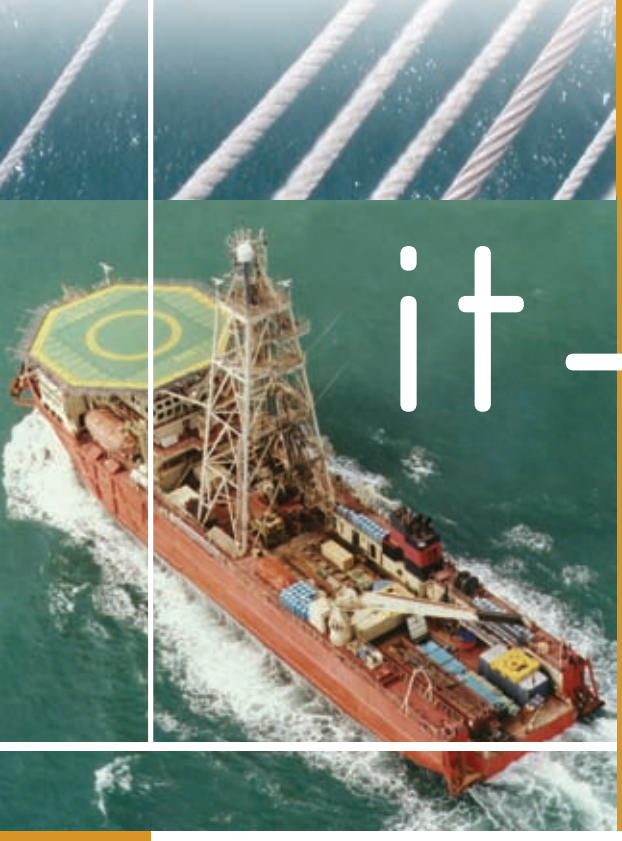
www.autoship.com

Shipbuilding software company Autoship has released a new version of its hull design software, Autoship 9.0.

The program has some new design tools, including 'feature patches', a system of introducing local shape control on a surface without dealing with unwanted control points, and 'edge mate', which allows all or part of the edge of one surface to be matched exactly to all or part of another surface's edge with full control over the shape of the transition.

There is a project integration and export function, by which surfaces which incorporate 'feature patches' or 'edge mates' can be fully integrated into an Autoship project. They are contoured, intersected, trimmed, meshed and rendered just as any other surface.

They also export exactly via IGES, allowing for transfer of designs from Autoship to other programs.



it-operations made easy and cost efficient

SAVE TIME, EFFORTS AND MONEY

Installed on 220 vessels. 1000 PC clients. The name is keepUp@sea

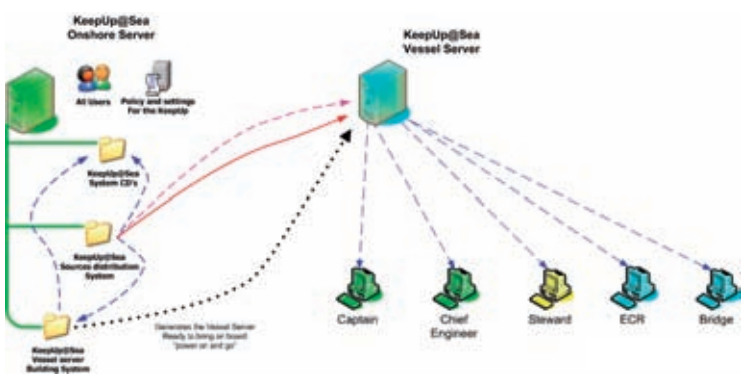
keepUp@sea - you won´t believe IT. **keepUp@sea** enables ship owners and it´s IT-department total control of all official software used onboard. As in its name, keepUp@sea assures maximum uptime for the company critical IT functions. With keepUp@sea, you may standardize all company approwed software. All implemented software is maintained from a single point onshore.

If software or operative systems is to be upgraded, or parts of the setup on the ship PC fails, normally you would have to travel to the ship to perform upgrading or bug-fixes. **No more**. With keepUp@sea from Palantir, most of these tasks can be performed from your office.

Our product in short:
Server's onboard the vessels get their keepUp@sea system generated from the company´s "onshore" server. This server stores all the information about the software and setup on each vessel. The vessel server generates the OS and software for each client on board.

When it's necessary, new sources for adding / removing programmes, or major / minor changes is produced and placed on the "onshore" server. New sources will be distributed either online, by mail, or by CD's to the vessel servers. By this, our customers have fully control of all IT solutions onboard. Any changes generated onshore, will immediately be ready for distribution to the vessels. All tasks performed without any travelling onboard.

To good to be true? We invite you to call us for a live demo at your office!



palantir@sea
your maritime it&c integrator

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Main customers: Wilson - Subsea 7 - Torm - Aasen - PGS Shipman - Transatlantic

Bergesen Worldwide Gas deal for MTS

www.martranserv.com

Bergesen Worldwide Gas (BW Gas) has signed a deal with electronic purchasing company Marine Transaction Services (MTS) to expand its use of the MTS e-commerce platform.

Bergesen will move to electronic invoicing, so BW Gas will have its whole process, from requisition to payment, electronically supported.

"This is a natural progression towards a fully electronically supported supply chain for BW Gas", says Tor-Egil Gjulem, purchasing manager of BW Gas. We are truly moving costs out of our value chain."

During 2005, MTS has secured contracts with ship operators Royal Caribbean Cruises, Wagenborg, Wallem Ship Management and J.Lauritzen.

Signing up to e-business - Brynjar Gevelt, CEO, Marine Transaction Services (centre), with Tor-Egil Gjulem, purchasing manager, and Jan Waage, assistant director/manager IS/IT, from BW Gas

A.P. Møller uses cc-hubwoo e-procurement

www.maersk.com

A.P. Møller - Maersk has signed an agreement with electronic catalogue company cc-hubwoo as part of its e-procurement program.

Cc-hubwoo already counts Scandinavian oil giant Statoil among its customers.

These companies were also present at the "cc-hubwoo community conference" in Palma, Majorca, where over 100 representatives from major groups spent the 2 day seminar exchanging their experiences and working on the future challenges for e-procurement.

Strategic Dataworks acquires Technet Hellas business

www.strategic.co.uk

Strategic Dataworks Ltd has signed an agreement to acquire Technet Hellas Ltd's Information Technology business in Greece, with the new name Strategic Dataworks Hellas.

Technet provides IT services to shipping companies in Greece and Cyprus.

Anthony Tsatsaronis, founder and director of Technet Hellas, will join Strategic Dataworks Hellas as director of sales. The combined company will be led by Costas Kavadias who will continue as General Manager.

Star and BASS settle intellectual property suit

Maritime software companies Star and BASS have settled a legal case following BASS' alleged use of elements of the Star Information System database and database model from the SIS planned maintenance system, and selling it as their own product, with their own user interface.

Digital Ship was told that the exact amount of the settlement was over NOK 1m ($150,000), with the amount calculated on basis of previous cases held in the Norwegian courts.

BASS has a 34 per cent share of SIS, and made an agreement with SIS in 1999 that it could legally purchase and incorporate elements of the SIS software in its own software. It had an agency agreement with SIS to install its software until 2003.

BASS says that it took the initiative to appoint an independent panel of experts to verify SIS' claims about the unauthorised use of the database logic; the panel concluded that the infringement had taken place.

"We respect the conclusions of the panel, and have taken responsibility for the mistake by compensating SIS through a settlement," says Per Steiner Upsaker, managing director of BASS.

"The adoption of elements from the SIS database in BASS software was an accident, not a deliberate act of piracy. BASS takes full responsibility for the error and has been proactive in its efforts to work with SIS to settle the matter. As such, we object to being characterized as behaving in an unethical manner," he added.

"We will release a new maintenance system in December, and to remove any trace of doubt, we will allow SIS to review this," says Mr Upsaker.

"Because of varying legal interpretations and the practice of this industry, determining intellectual property rights can be difficult. As you know, databases are readily and openly available to any users of maintenance systems in the industry.

"SIS, BASS and other vendors provide tools for migrating between competing systems, so knowledge of each others' database models is prevalent in this business," he says.

Per Anders Koien, managing director of SIS, says he does not believe that the settlement amount reflects the revenue which BASS earned from selling the database, but there are possibilities that SIS will have other gains from the settlement, such as BASS customers transferring to SIS.

The lawsuit was made against the Norwegian arm of BASS, BASS AS, which handles most of its international sales.

BASS does its software development in Malaysia and its product is owned by BASS Hong Kong. However under the settlement deal, all of the BASS companies will support the settlement.

According to Mr Koien, the database represents about 70 per cent of the software development work, with the user interface representing the remaining 30 per cent. By copying Star's database, BASS effectively reduced its software development costs by 70 per cent, he says.

BASS denies this, and says that the disputed code covers only a small amount of the database.

Star says it is keen that shipping companies using the BASS software which includes the disputed database code are not inconvenienced too much; as part of the settlement agreement, shipping companies will be able to continue using the pirated SIS database, together with the BASS user interface, until June 1 next year.

BASS points out that in the settlement negotations SIS sought to push the deadline up to March 1, 2006. "Only after BASS offered substantial additional compensation did SIS agree to extend the deadline to June 1, 2006," says Mr Upsaker. "Our customers can use this time to upgrade to our new system, thus avoiding any interruptions to their operations."

Under the settlement agreement, BASS is not allowed to market or sell its software until it has built its own version of the disputed database elements, which it plans to do by the end of 2005. DS

Best practise in software - Athens conference

When you have to manage 500 vessel PCs, 110 vessel servers and 80 vessel networks by yourself, you need a better system than just fixing problems over the phone. Some of the topics which were discussed at *Digital Ship* Athens in November

"THE MOST BEAUTIFUL SEA hasn't been crossed yet" - a quote from a 60 year old Greek song, Professor Takis Varelas of Danaos addressed the *Digital Ship* Athens conference with these words to illustrate the opportunity and potential that he believes still exists in the future of shipping technology.

Progress is being made, slowly but surely, in a wide variety of sectors within the shipping industry. But the biggest questions that remain are over the direction and form that this progress should take. Gaps exist along the supply chain which are hindering the maximisation of resources.

Although satcom companies and software vendors are producing useful and innovative products and services, a single coherent thread to link the processes together and demonstrate the profit that can be gained from the application of a top class, fully integrated IT system does not seem to have been properly presented to the ship owners and managers. Or if it has, the message seems to have been lost somewhere along the way.

The fundamental question is cost versus benefit - how will this product make me more money? Ship owners are looking for solutions where you can take out a calculator and show them how much money this system will put in their pockets in 6 months time. Their interests lie in tangible, measurable improvements, and it seems that advice on strategic benefits is given short shrift. The operators live in the here and now, and are looking for products with measurable returns that can be realised very quickly.

Communications vendors are pushing broadband to companies who are still unconvinced of its necessity, and who are unwilling to pay massive amounts of money to see it happen. Software companies are creating new applications for an industry that is still undecided about the merits of outsourcing. And the authorities are introducing an increasing number of regulations, which require an increasing number of tasks to be performed on vessels that have a decreasing number of people.

What is the future of technology in the shipping industry? Representatives of some of the world's biggest suppliers, vendors and users came together in Athens to discuss this very question, and to find ways to make working in maritime a little bit better.

Charis Nassis, Ceres Hellenic Shipping

Charis Nassis, ICT manager, Ceres Hellenic Shipping Enterprises, outlined how Ceres have approached the installation of communications software on their ships.

"We have a lot of equipment, and we needed to find a way to manage it," said Mr Nassis. "We have 110 vessel servers, 80 vessel networks and 500 vessel desktop PCs. We could use an IT manager on more than 20 PC ships, but this is not feasible."

Challenges of managing 500 vessel PCs- Charis Nassis, ICT manager, Ceres Hellenic Shipping Enterprises

Installation is one of the major issues in IT system deployment. "We have a lot of experience deploying PCs on vessels", he said. "An onboard installation asking 20 questions is no good."

"Users are destroying what you're doing on vessels. 80 per cent of problems are caused by user failure, 10 per cent by hard disk failure and 5 per cent by power supply. It's easy to fix hardware failure, but it's hard to fix user failure. In the total cost of ownership, you have to include the maintenance. So you need to do a good installation."

"We wanted a system with standardised hardware and software, that could have simplified and automatic onboard installation", he continued. "We wanted something that could cure most of the common problems and reduce that total cost of ownership. If it's not reliable you'll need on board visits, which cost time and money, and critical systems may not operate until they're fixed."

"We needed to standardise - but how?" said Mr Nassis. "We decided to create a Ceres baseline that would be standard on all types of system, IBM, Dell, HP or whatever. Then we adapted all of the applications we needed on those platforms to the Ceres baseline. This makes everything installable in the same manner to every brand of computer."

"We repackage the software ourselves", he explained. "We create our own installation packet with our own terms. We had to repackage every piece of software out there, which sounds like a massive job, but it's not as hard as you might think. It came to about 110 programs, which was not too bad after all, with a mean time to create and test the software package of 2 hours."

Having this one, uniform installation baseline to tie all of the software certainly simplifies the application installation process. "So for our installation it just asks one question - do you want to begin?" Mr Nassis explained to the audience. "Then a captain can't install anything that's not approved by us. And we also know what the outcome of any one installation will be, because every installation is identical."

"Then we keep what we call a 'red disk'", he continued. "This is a full disk of all the PC systems, which can be re-installed in the event of a major problem to restore the PC back to a working state. If there's a problem we just put the whole system back in new again."

"We know exactly what's on the computers because the system can't install any software that's not approved. We try to exchange equipment instead of fixing hardware wherever possible, and if there's a need a quick fix we can send the stuff by email."

Mr Nassis believes that the benefits that have resulted from this system have been quite impressive. "Help desk calls have since dropped by 90 per cent", he told us. "Communications between ship and shore are at 95 per cent reliability. We also have a proactive maintenance system - because the systems are identical and can't be changed, once we find a bug somewhere and fix it we can deploy the same fix everywhere almost immediately."

"Did it work for us? Yes, it did. We now have every vessel communicating every

day, with no problems."

An audience member asked the question of how they can be sure that the crew won't try to install other software. Mr Nassis answered that it was impossible. "They have no access to the system", he said. "We kept everyone out, even ourselves, and created a different installation system."

"There is no administrator password. No-one has a password, not even us. In a situation where there's a problem we will send a software package to re-install everything, there is no password to let them attempt to fix the problem."

Mr Nassis was also asked about hardware failure, and what the Ceres approach is. "There are no spares on board", he told us. "What we do is monitor the servers, and packets are sent back to say 'the disk's ok'. From 60 random vessels we had maybe one failure. It took two days to send the spares and fix the problem. You can keep spares in strategic places, like ports or airports. The important thing is that we're unlocked now, and we can use any brand of server."

Giancarlo Coletta, Grimaldi Naples

Giancarlo Coletta, purchasing, maintenance engineering and cost control director, Grimaldi Naples, talked about his company's experiences introducing a new purchasing, maintenance and stock control system over their fleet of 37 owned vessels and 11 chartered vessels.

Reviewing approaches to maritime software - Giancarlo Coletta, purchasing, maintenance engineering and cost control director, Grimaldi Naples; Lana S Al-Salem, IS manager, Sekur Holding

"We expanded to have vertical integration", Mr Coletta explained. "We made the acquisition of a port terminal and a stock centre, and we needed a good tool to control purchasing for the ship. The requirements of ISO 9001 and the safety regulations meant that we needed IT systems. The company understood that, and decided to start this program."

"We had been developing our acquired maintenance inventory administration, advanced purchasing, email, fax and telex systems since the 1990s", he continued. "Our group Integrated Maintenance Management System (IMMS) project started in 1996. The first step was the choice and installation of the software, the second step was integration."

"We decided to choose AMOS for the fleet - it's flexible and capable of giving the right answers. It's modular and can be integrated, so exchange between the office and ship can be very effective. It's multi-platform, simple and user-friendly, without any restriction in the information, so we thought it was a good choice. The support from SpecTec was also very important."

Mr Coletta gave an overview of the scale of the operation they were talking about with an overview of the number of vessels and systems involved. "We had 37 ships and 10 newbuildings managed by AMOS", he said. "The office database was 2GB, with a typical ship database of around 40 MB. We had 12,000 purchase orders per year, with 10,000 spare parts and 12,000 consumables per ship. And we exchanged around 25,000 AMOS mail messages."

"Qualitative management is a big area", he continued, "with management of maintenance, centralisation of data, benchmarking, reductions in lead time, inventory control and cost control all very important. For example, if a vessel needs spare parts we can locate them on another vessel and have them transferred."

"We've had a reduction in communications costs of about 35 per cent," added Mr Coletta. "There were some very important factors that helped us to do this. One was the commitment of management to the IMMS, which led to the assignment of dedicated people. This can't be done without the willingness of the company."

"There was also a high level of integration with accounts and finance to reinforce cost controls. We did continuous research and a lot of personnel training. And we had a high level of support from SpecTec, without which the project couldn't have succeeded."

Mr Coletta was asked by a member of the audience if he liked the idea of further integration with suppliers. He felt that it was beneficial. "Yes, for better control, and we can also get better prices", he said. "The system that we have is good for judging the performance of suppliers because we are integrated with them."

There was also an enquiry from the audience into what nationalities were hired by Grimaldi to work on their vessels. "We have Italians, Romanians, Filipinos and Indians", he replied. "Today the big problem is to find people who are well-trained and accustomed to IT technology, although Indians are very good with IT. We have set up our own training systems and have our own simulator to try and improve the situation."

Dr John Coustas, Danaos Shipping

Dr John Coustas, president, Danaos Shipping, explored the strategic usage of information and communication technologies in modern shipping.

"Do you view your IT strategy into the future?" asked Dr Coustas. "Your view of IT depends on how you view your company. You can view your company as a shipping company or as a transport service - considering yourself as a transport service can give you a more general view of shipping."

Using IT to improve company performance - Dr John Coustas, Danaos

"Customers are demanding", he continued. "But that's a good thing, that gives us the impetus to go forward. The ship is the platform for the execution of our charterers' requirements, so we have to try and live up to their demands."

Dr Coustas expressed some of his views about the necessary components in achieving a higher level of performance. "We need integration between departments, charterers and third parties", he said. "We need a global data platform. That will enable you to outsource some tasks - you don't necessarily have to do the work on board. This is the strategy, to decrease the tasks needed to be done on the vessels."

He then turned his attention to the software requirements of this type of global, integrated system. "The software obviously needs to be totally integrated", he answered. "Communication between departments is very important for consistency. User-friendliness is also very important for successful implementation."

"The general aptitude of crew in using IT is poor", he continued, echoing a point made by Giancarlo Coletta in the previous presentation. "Crew numbers are decreasing and duties are increasing, so they have less time anyway to perform complicated tasks."

"The trend towards broadband is encouraging", said Dr Coustas. "The centralisation of all vessel databases through this connection is very appealing. But it needs reasonable economics to appeal to shipowners."

"We also need to make a bigger effort to make a better life for the crew", he added. "There's too much loneliness and isolation. We must have affordable and effective communication to connect seafarers to their loved ones."

Dr Coustas then moved on to one of the conferences hottest topics, on board broadband, and discussed his own company's project in that area. "Broadband services are the way ahead", he said. "The vessel should operate as a node in the overall network."

"Having a database on a ship is a bit inflexible, and it's easy for things to go wrong. If there's a central database onshore it's easy to change to the changing needs of charterers. However, we still have some way to go before a good reliability versus cost situation is achieved."

"At this stage we have set the specifications for broadband, we believe it's the future", he continued. "It has the functionality we need, and it's a cost effective way to do it. It's an ambitious project we hope will come to fruition soon. Although we'd like to improve reliability (with the antennae) before we can openly say 'this is it'."

When asked about when he felt that broadband would gain wider acceptance, Dr Coustas was optimistic that it could be sooner rather than later. "With the specifications we set for the broadband project it's quite affordable", he said. "I think it will be an alternative. Shipping moves quickly when they see something that can bring them savings. Five years is a long time, and a lot can change."

Ioannis Ioannou, Hellespont

Hellespont shipping has followed a policy of developing all of their systems using in-house technology. Its IT manager, Ioannis Ioannou, gave a presentation to explain the processes involved in making this policy a sustainable reality.

"We're doing it a different way to everyone else", he began. "Everything is in house. We use Linux as our operating system, as it has open source coding and can be freely adapted by us to suit our own needs. Our policy is not to depend on other companies."

Developing systems in-house - Ioannis Ioannou, IT manager, Hellespont

"It's important to communicate with ships, but it costs", he continued. "Ideally we'll have 24/7 cheap bandwidth at some stage in the not too distant future. But you have to define a very good protocol to optimise the medium, though you'll always have some overhead. The problem is, no matter how much you compress and how good the system, it depends on how you manage it, how efficient it is. Our system is bi-directional and has low overheads."

Mr Ioannou continued to talk about the use, or misuse, of email in the maritime industry. "Email may not be the best for slow links, but it is easily recognisable", he said. "We all know how easy email is, but not on ships. It's a different environment. Today, a 5 Mega pixel photo taken by a normal camera could cost $100 to send to a ship. If you don't pay attention you may have to send big files through slow links."

"Then there are the regulations that say 'send a form, fill it out, and send it back'", he continued. "It's too much."

"Most information is just text, but people don't send text files anymore" said Mr Ioannou. "Attachments can be just eye candy, and you end up having to pay to receive junk. On land, you just ignore it, or delete it, or whatever. On board you have to pay to get it."

"You could also be blocking important voice calls by transferring this spam", he added. "Try to make the users pay if they break the rules. If an office sends a 1MB email to a ship that blocks the communications systems for an hour, the ship must be able to say 'don't do it again'."

"Everyone assumes that ships must have email - why?" he asked. "You should have automatic email 'Cc:' facilities to the management team. Every message both ways should also go to the management. That way you can be more certain that you really need the emails that you are sending."

Letting off steam at Inmarsat's evening party. Photo by Tasos Makris, IT manager, Gourdomichalis Maritime

Spam email is a serious issue for ships in a way that is inconsequential for land based industries, as ships have to pay for the inbound data that they don't want. Mr Ioannou had some advice in this regard. "Make the email address for the ship something strange", he told the audience, "and this will make it more difficult to be used by spammers. And when developing white and black lists it's better to start off saying 'everyone's a bad guy' and then start allowing addresses. Don't use other, third party lists to block mail. We had a system that ended up blocking programs we really needed."

"Have a certain kilobyte limit, and you'll see that people will try to reduce the size of their messages to the minimum."

"When we did the demos the results turned out differently. Maybe the vendors didn't fully understand the questions we asked" - Lana S Al-Salem, Sekur Holding

"Our approach is a combination of policy and cost", he concluded. "We have a policy to have everything in house, and we've had Linux for 11 years. Our systems were built part by part. The cost was low because we saved on licenses, virus downtime, hacking and so on. Our decision was that we'd do things our way."

Lana S Al-Salem, Sekur Holding

Lana S Al-Salem, IS manager, Sekur Holding, explained the selection process that her company had designed to find the most suitable shipmanagement software for their operation.

"We needed the business processes to be integrated", began Ms Al-Salem. "At the start the management said 'we have no time for a selection process, we need the system yesterday'. They said 'pick one and let's implement it'. But I told them that if they picked the wrong system it will have a much higher failure rate and will be inefficient."

Ms Al-Salem identified a number of critical steps in the process. "The first thing is to identify what you need", she said. "It's a bit like buying a house, first you have to think of how many rooms you want, what they are, what bits you would change, and things like loan rates, tax, and so on. You can't find the right house for you if you don't know what kind of house you need."

"Once we identify the requirements we need to prioritise the list", she continued. "It might look simple, but when you have all the information collected later it may become unmanageable. You need to balance the priorities of the owners and of the IT."

"You need to ask; 'What business areas are we covering?'" said Ms Al-Salem. "Do we take the best modules from different systems and then integrate them, or one good overall system? You need to set your objectives at the start, or it will cause problems later on."

"You also need to decide on what the technical requirements are. Some are general.

Of all the requirements we have to decide on what we really need. I collected a list of requirements from each department itself. We collected a feature list from 10 suppliers and showed the list to the departments, and then asked them: 'what do you need?'."

Even what appears to be the best system is useless, however, if you can't implement it where you want it. "Implementability is one of the most

important factors", said Ms Al-Salem. "There's no point having a great product if it's made by a crap supplier with no support. Have a set, realistic implementation plan with dates included."

"I didn't receive a good implementation plan from any of the vendors when we were going through this process", she continued. "The only issue they discussed was training, how to train the users. You must bear in mind later costs - with what seems a cheap system at the start you might have to keep paying, paying, paying."

Conversation at the after-conference dinner

"You have to get all of these data to make a proper comparison, to get 'apples for apples'", explained Ms Al-Salem. "Identify 'key distinguishers', the things we must have, and use these to eliminate vendors. For example, if you think 'we can't have a system without an accounting module', then you can eliminate any packages without one.

Analyse everything in detail."

"Also ask the vendors to do a script demo", she added, "a demo using your requirements. You at least need to go through the 'must have' processes, and you should have the users involved if possible. At least then they will have some ownership of the project, and will share some responsibility if it fails."

"One thing that we found during the process was that all of the vendors seemed to answer our questions with almost the same answers" said Ms Al-Salem. "But when we did demos the results came out differently. We're not sure why this happened, maybe the vendors didn't fully understand the questions we asked."

Outsourcing

A panel discussion reviewed the pros and cons of outsourcing software development, chaired by Dr Nikitas Nikitakos, associate professor, University of the Aegean.

Charis Nassis of Ceres was the first to reply, said that "a shipping company's job is not to build software, so the future is in outsourcing."

Ioannis Ioannou, Hellespont, also agreed that working in-house is not the best solution for everyone. "Outsourcing has benefits, it depends on how you're doing your jobs", he said. "We thought over the years that in-house would be better, but in some cases outsourcing can be better. Things move on, so things change. I believe it depends on the company and the job you do."

"Size is also important, bigger companies will need more outsourcing. In future we may have total control over the ship with broadband, so there will be no need."

Tasos Makris, IT manager, Gourdomichalis Maritime, added that "we need to see the benefits and dangers in outsourcing in the future, like viruses and spam are a big threat. But my job is not making software."

"I hope people outsource", said Mark Witsaman, SeaWave. "We want to provide the tools to let IT people run their own systems."

"Our job is to run vessels; so outsourcing is a good thing", said Athanasios Rozakis, deputy general manager, Tsakos Hellas. "We need to manage costs. The HR factor has to be looked after. Training on vessels won't cover the needs that we have. You have to help us find solutions."

George Hoyt, referring to a previous position he had held with Rydex, made a point about companies developing their own systems from the audience. "We were putting Rydex in in Asia", he said. "Some companies said they would make it themselves, and did it after a couple of years, but they were always behind. Some didn't get email until 2002. Sometimes you need to outsource."

A shipping IT manager also added his opinion from the audience. "I'm the only IT guy for shipping in a massive company", he said. "We don't want to spend time doing things that aren't part of our core value. The next step is full, worldwide IT support. No one is doing that kind of IT support for the ships."

"I've been working on a big project for 4-5 months", he continued. "The IT infrastructure at our company is massive, but the IT department for 50 to 60 ships is just me. I'm on my own. I want to move away from installing printers on ships at 6pm. I don't want to spend time on something which is not core value."

"You can go to a company that charges $30,000 a year, but you may as well exchange the systems every 6 months. Outsourcing is one less headache, a throat to choke if things go wrong."

Emmanual Kothris, CIO, Eletson Corporation also expressed his point of view. "We did our own applications between 1995-8", he said, "and then went to the market to buy applications. It depends on the policy of the company. The shipowners want to reduce costs, and IT is a new cost."

The question was asked about how companies calculate the IT budget for their ships. An audience member responded by saying; "We need a balance between stuff that's cheap, but that won't need to be replaced very soon. It's difficult to budget, but times are changing. There are a lot of options out there."

George Hoyt added that "if you let vendors become part of your company they will succeed more. It's a small market, some people think it's crazy. The target market can be 5,000, 6,000, or 7,000. Vendors need to be your partners."

"We provide IT support and help desk support", said Mr Witsaman. "It's based on the constraints of the products. But we provide support for our own products - that's different to providing support to other peoples'."

"The budget depends on the size of the company, the vessel, and what you want to do, what systems you have", added Mr Nassis. "What would you like to do? Shipowners don't want to lower cost, they want to increase revenue. IT is helping to increase revenue." Mr Rozakis added that they knew the costs, so they could be competitive.

Dr Panagiotis Nomikos of Danaos gave his own estimate about what he expected the budgets for IT should be. "For a fleet of 50 ships, my rough estimate for a budget, excluding the satcoms, would be around $1 million for everything, so about $20,000 per vessel. That's the pure IT cost, servers, people and so on", he said.

"There's a simple formula for shipmanagement companies", added Prof Varelas, "they have a specific income per vessel per day. We know this amount. The rule for many companies is to budget for about 2% of that. For new vessels each project has a zero budget at the start."

Mr Ioannou's final point illustrated one of the biggest differences that seems to exist between the users and vendors of shipping technology - visible benefits. "In every part of IT, there is no truth as to what IT is offering", he said. "What you get from IT is intangible."

Prof Takis Varelas, Danaos

Risk assessment and risk management were discussed by Prof Takis Varelas, project management director, Danaos management consultants.

Models for risk assessment - Professor Takis Varelas, project management director, Danaos

"We need models, not just for risk assessment, but risk management", he told the audience. "This is the best practice of OCIMF and one of several KPIs in TMSA, which says best practice is when 'shore based management collates on-board risk assessments to check that standards are consistent'."

"Risk assessment is designed from shipping, for shipping", continued Prof Varelas. "Risk is frequent and has consequences. Causes should be linked to controls. We provide an integrated approach - risks are assessed so they can be managed. But we need additional tools for this."

One audience member asked how generic risk assessment could be, and wondered how software could be produced to deal with it. "There's no choice, we need to use computerised systems for it", replied Prof Varelas. "But the assessment is not the important thing, it's the management of the information you receive from your assessment."

Another audience member asked how Prof Varelas might see this kind of system integrating with FSA. He replied that they "try to use the benefits of FSA, to stick to the principles. The most important thing is to have good risk assessment for the industry, and it's been available since two years ago. You must take into account that ship offices need a tool for dealing with risk - for qualitative risk management."

Paul Ashton, SpecTec

Paul Ashton, vice president Northern Europe, SpecTec, emphasised the specialist nature of maritime software companies and the economic factors that determine success.

Paul Ashton, CIO of SpecTec, with Dr Panagiotis Nomikos, business development director of Danaos

"We have a history of long and loyal serving employees", he continued. "After the Xantic takeover I was VP of the maritime division for just a few months. Soon many of the key people who had been there left or were fired. A few years after I left, a group of us that had been with SpecTec started Spec2. But then we got the opportunity to get the company back"

"SpecTec was, and is, very much based on people", Mr Ashton added. "When it comes to a big company, they often lose sight of that. Now, 27 SpecTec people, people who left during the Xantic time, have come back to the company since the original management returned. In the first four months since the buy-out, business has already gone up 20 per cent."

Mr Ashton moved on to talk about the size of the maritime IT industry. "The shipping IT market is a small one, we reckon it's around 12,000 ships", he said. "Sometimes when you see the facts on some slides, you wonder why we're in it. Whenever we have technology, we have innovators and first movers, and the first movers tend to be from certain shipping sectors."

"So, is 12,000 possible customers a big enough market to for a company?" he asked the audience. "We think yes, some other software companies think yes. If you're Microsoft you'd probably say no. I'm from Manchester, where there are lots of factories. From my window at home I could probably see as big a market of factories as there are customers in the whole world in shipping."

"The customer is demanding, and rightly

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Leading the way

so", he added. "We wouldn't have it any other way. It's only by achieving market share that you can improve and expand, and you have to fight for that market share."

Mr Ashton then went on to talk about the challenges involved in maintaining a global support network. "Those involved in setting up offices around the world will know it's a very tough job", he said. "There's an 'I know about maritime' bandwagon, with people making software when it's not part of their core business. You have to take time and ask: 'Is my company so unique that I have to develop my own software?' If there's something out there being used by 7,000 ships it must be more tested than something you will create yourself."

"We're more a service or consulting company than a software company", he continued. "Even if a piece of software was not the best in the world, it can be successfully implemented with good services. Global offices are needed to provide support to offices and ships wherever they are. Typically, we take on new employees that are 'super user' ex-mariners and combine them with IT people with maritime experience."

Mr Ashton warned that there are dangers in trying to do everything 'in-house'. "You can build your own database, but I can tell you, the first one that you build will be wrong", he said, citing his own experiences in this field. "That is why we provide the services to do that for you. If you have a vision of what you want to achieve, I can't promise that you'll reach it in 2 years, but if you have outlined your KPIs and specific operational targets, and you have installed good, well-tested systems, you will at least know for sure if you have got there, and you'll know if you can celebrate or if you have to blame somebody."

As for the wide spread adoption of broadband, Mr Ashton said that "of course it will happen, it's a matter of when. But will this bring land based industries into maritime? For me, I don't think so, we will still need specialist maritime software systems."

Mr Ashton was asked by an audience member about whether or not there should be greater co-operation between vendors, or whether this would have a detrimental effect on competition. "It's a common debate", he answered. "There are different levels of co-operation and we are already co-operating in areas such as common standards, for example in purchasing and paperless reporting, and the vendors are meeting and discussing this. As a software provider we know that we have to build bridges to reach the other software which people are using."

Nikos Goudoulias, ShipNet

Nikos Goudoulias, Greek country manager, ShipNet, explained how ShipNet have integrated their systems with Microsoft .NET technology.

"The Microsoft .NET platform carries a whole range of benefits for users", he said. "It's very easy to use, as Microsoft software is the most widely used software in the world and is recognisable. It also gives you the freedom to choose your own language, to choose the tools you want, the features you want, the functionality you want. It's virtually 'plug and play' with most software, because Microsoft is the world standard."

"It also gives you a very high degree of stability and security, as you know that .NET technology is well tested and trustworthy", he continued. "And it's easy to deploy and to manage for the same reasons. It's so flexible that you can access it pretty much anytime, anywhere, on any device. It's available for distribution to PDAs and all kinds of other portable devices."

The use of the .NET technology is also of benefit to programmers, according to Mr Goudoulias. "You can say goodbye to the 'DLL Hell', as the programmers say", he said. "It's all simplified, so maintenance of the system is easy. The web will finally be where you want it - anytime, anyplace, anyhow."

Managing the information - Panteleimon Pantelis, Ulysses Systems

"What comes out of this is that you will have many more ways to access your data today than you did yesterday" Mr Goudoulias continued. "Integration is the main thing, for primary tasks and support tasks. Now you can integrate with your customers and trading partners through the web."

Panteleimon Pantelis, Ulysses Systems

Finding ways to keep track of all of the different types of information demanded by modern shipping regulations was discussed by Panteleimon Pantelis, director, Ulysses Systems.

"These days there are so many different bits of information to keep track of that it is getting ridiculous", said Mr Pantelis. "Just from ISM, ISO 9000 and 14000, ISPS and TMSA there are 1,470 tasks to perform, 3,300 manuals to read, and 230 different types of forms to fill in."

"TMSA requires extensive maintenance of KPIs in its 12 elements. Working out if you have an 80 per cent crew retention rate, for example, software should be able to do this automatically."

"And now the companies don't necessarily trust the masters", he continued. "If people don't fill in the right things and get caught out they'll be in trouble. Some poor blokes have to prepare new stuff every 4 hours. Software can be used for proving to bosses and to others that we do our jobs properly."

"ISM in 1998 introduced a lot of new checks - Have you enough toilet paper? Have you recycled the toilet paper? And so on….. Slowly it's all piling up. You need more features because you have to track more things."

"For some reason superintendents have a tendency to not want to use software", added Mr Pantelis, "but they'll have to now, there is just too much stuff to do. The software needs to be user-friendly too though, if the software gives you handcuffs it's not good either."

"Management needs to put more thought into the type of software they're choosing, and become more involved in the process", he said. "Sometimes in the past here in Greece the cleaner would choose the software. You really need to ask the people who are really important, the users. What's in it for the master, the officers, and the chief engineer, to use the software? They must be able to see how this helps them."

"Before, companies would say 'we're making money, we're happy'. Now you use KPIs to see how well you're really doing things. But most of the data comes from the ship, so you have to have software on the ship that works well and is the most efficient software for your needs."

By way of an example of looking at the big picture, Mr Pantelis talked about Greek taxi drivers. "If you notice, in Greece the taxi drivers all drive a Mercedes", he pointed out, "and even though the initial purchase cost is high, the utilization cost is lower because it runs smoothly and doesn't break down much. They see this. It should be the same for the software."

George Hoyt, Newslink Services

George Hoyt, managing director of Newslink Services talked about his efforts to raise awareness of shipping within the general public, and ways to improve the image of the industry as a whole. "We have talked for a long time about making people ambassadors for the image of shipping", he said. "We're hoping that new initiatives will help to make this easier."

"We're creating an image of shipping website, where we'll put our stories about the image of shipping", he explained. "There'll be a

A website to improve the image of shipping - George Hoyt, Newslink Services

'good news' database, available to everyone, on the website, where people can read positive stories and add in news of their own. We need to get outside the marine press. The outside world doesn't know the great and good things people in shipping do every day."

"It's a site for you, about you. The domain is registered, and the websites are being constructed. It's on the way, and we think it could be up and running in November.

But it will need support from the industry to make this work."

Spending on software

The issue of spending patterns in the shipping industry, and how owners and managers could be encouraged to increase their spending on IT, was a topic of a debate chaired by Achilles Choursoglou, IT manager, Olympic Shipping.

"It's starting to move in that direction at the moment", said Giancarlo Coletta, Grimandi Naples. "But it's also a question of culture. I've seen that there's not so much knowledge of the technology and how it can help the company. It's a necessity for the shipowner to realise that they need IT."

Chairman Choursoglou wondered about what kind of effect a movement by business software giants like Microsoft, SAP and Oracle into maritime might have. Paul Ashton of SpecTec didn't think that a direct entry into the market would be possible.

"I don't think that the large companies understand the realities of shipping", he said. "I think when they see the true size of the market and people's reluctance to spend money, they may back out. But we already do some integration work with SAP, so we can all work together."

Dr Panagiotis Nomikos, Danaos, had a similar opinion. "The giants want to be in every sector", he said. "Eventually they will see what is good for them and what's not. I agree with Paul Ashton. For example, SpecTec spend about $20 million over 20 offices, Boeing spend about $52 billion on 30 offices. When the giants understand the market realities they will leave this space."

"Microsoft or any other big supplier, their best move would be to buy one of us out, because we have the market knowledge", added Ms Al-Salem. Or, as Mr Choursoglou pointed out, Microsoft could just buy everybody out!

Panteleimon Pantelis, Ulysses, gave his view of the situation. "I think Microsoft is trying to enter through the back door", he commented. "What I see is them producing tools to plug into our software, so we don't have to develop them. That's what they're doing, I think. That's the only way they can succeed."

"Microsoft or others have the advantage of big portfolios, they can afford to lose in one market and make it up in another" added Nikos Goudoulias, ShipNet. "If they decide to enter they may buy in a few companies and integrate them, and make an application."

Level of automation

Paul Ashton, CIO of SpecTec, said he felt that it was up to the customer to decide on the level of automation they wanted for the systems. "As a software provider, we're open to doing things the way the client wants, automated or otherwise", he said. "They should choose."

Dr Nomikos felt that the data collection process is only a very small part of having a good system. "Collecting the data is only 30 per cent of the job, integrating it into the database is the big thing", he said. "Outsourcing is a great thing for this, we've been using it quite a bit. To run crew systems they use data collected in the traditional way."

Cost is a factor too though, as Mr Coletta pointed out. "Trying to capture data automatically is expensive, it adds to the cost of the software", he said. Ms Al-Salem also made the point that there are ready-made systems for data collection for the software.

"Terminals do automatic data collection", said Mr Pantelis. "It's done in other industries, shipping will catch up. Outsourcing is only as good as the specifications you give them. You have to look at their quality processes and data processes. If you can't properly compare what they do with others, then you obviously can't do the specification well enough."

On this point, Mr Ashton added that: "when you do it (build systems) internally you have to do the same, go through the full process to make sure you do it right."

A member of the audience asked if it was better for the software to be a leader for the processes in the shipping companies, or should the companies be driving software development for their own systems. "It's necessary for companies to decide what changes they will make, according to the software standards or according to their own", said Mr Goudoulias. "If we find that the software shows us a better way to do our own processes, we'll change."

Mr Ashton also felt that it was dependent on each company's situation. "Some processes are quite standardised, but some aren't, like every company having a different purchasing system", he said. "We have done lots of implementations, so we have seen some ways we can suggest to customers to change. But they're paying, so it's their choice."

"It should be like a suit, tailored to fit", added Mr Coletta. "You shouldn't be driven by the software. I've seen people try to introduce SAP and fail."

Dr Nomikos had the last word, with a call for greater agreement on standards in the industry. "I think all of the major companies are active in aggressively promoting KPIs and such", he said. "Often the customers ask us for advice on KPIs and TMSA. Software companies have been quick to follow TMSA and make applications to fit to that, but too much customisation is not healthy for either side. All of the companies involved are small companies by global standards. We should have some standards." DS

Original presentations from Digital Ship Athens can be downloaded from www.thedigitalship.com/presentations.htm

MAN B&W supplies Chinese training vessel

www.manbw.com

MAN B&W Diesel from Denmark has signed contract to supply a complete propulsion package, including computer controlled surveillance, for Dalian Maritime University's (DMU) new 2250-ton ocean-going training ship in China.

The package includes a MAN B&W Diesel 6S35MC engine, controlled by an Alphatronic 2000 control system, which will be the principal source of power for the controllable pitch propeller and shaft generator.

"As a world-renowned maritime university, this is the first time DMU has built a pure training vessel for training crew and scientists", states Professor Dong from the DMU.

"It was important, therefore, that the equipment selected should represent the very latest technology, with a high degree of acceptance in the market."

Westfal-Larsen contract for Kongsberg S-VDRs

www.kongsberg.com

Kongsberg Maritime has secured a contract to supply Westfal-Larsen Management AS, Norway, with its simplified voyage data recorder solution, the Maritime Black Box-S (MBB-S).

Westfal-Larsen initially ordered 12 S-VDRs for the whole fleet, but, according to Kongsberg, it has been planned that the contract will be extended later this year with a fleet agreement for the product.

Westfal-Larsen Management has taken this step to ensure they meet the requirement that all of its existing cargo vessels above 20,000 gross tonnage are installed with an S-VDR before dry-docking, after 1st July 2006 and at the latest, by 1st July 2009.

Kongsberg S-VDR approved by DNV

www.kongsberg.com

Kongsberg has received type approval from DNV for its simplified voyage data recorder system. The fixed data storage unit was approved by DNV in February this year, and the float free unit approved in September.

IAS and Motorola on RF container tracking project

www.interasset.com

Container tracking and management company International Asset Systems (IAS) have announced that they will be working together with communications giant Motorola to find ways to track containers using radio tags (RFID), and manage the generated data.

Kittiwake range of remote sensors

www.kittiwake.com

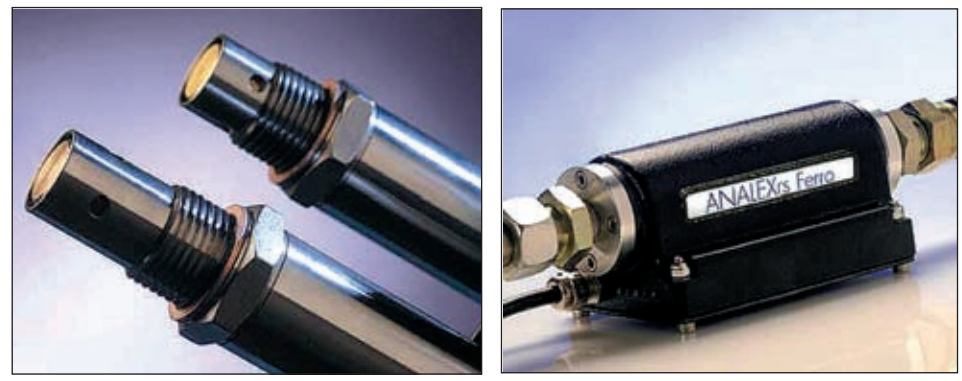
Kittiwake, a fuel, lubricant and condition monitoring company based in West Sussex, England, has launched a new range of sensors for lubricant and machine condition monitoring, under its "Analex" range.

The remote sensors will continually monitor, gather data and analyse total ferrous wear debris, particle content, moisture and oil condition.

"Remote online sensor technology is the way forward in the twenty-first century", says Chris Leigh-Jones, managing director, Kittiwake.

"Remote online sensors improve the overall analysis process, allowing for accurate trending through more consistent and frequent measurements, which can only result in a more profitable proactive maintenance strategy."

The company says that the new sensors can be easily integrated into existing condition monitoring and operating control systems.



Kittiwake's shipboard sensors for gathering data about oil condition and metal particles in lubes

New VDR company launched

www.netwavesystems.com

A new voyage data recorder company has launched in the Netherlands, called NetWave, which promises to make simplified voyage data recorders which are less expensive, easier to install and easier to download remotely.

The total cost of the NetWave S-VDR, including power supply, radar interface, data storage capsule, data handling processor and microphones (for audio recording) is just Eur 30,000, the company says.

The VDR has a simple console which can be installed on the bridge; to retrieve or review the data, users just plug a laptop into the console, or they can download the data onto a memory stick and remove it. NetWave has developed its own VDR data replay software.

The system uses special cables which can carry both power and data, reducing the total amount of cabling required.

There is no PC involved; the computer processor is located in the body of the hardened storage unit. It is connected to a simple console on the bridge (indicating if there is any problem), has a power source, and has microphones on the bridge and the bridge equipment.

The system has been designed to make it easy for shipping companies to dial in and review the data. Obviously the satcom costs of sending large amounts of data to shore are very high, but users might appreciate the ability to download data in emergencies or difficult situations.

To ensure security, the shipboard unit is given its own IP address and knows the IP address of the shipping company, and is programmed to only download data when the request comes from this IP address.

The system is currently being field tested by two container ships, and NetWave is in the process of arranging type approval from BSH.

The company was founded by David Post, an ex director of Radio Holland. The company is developing agreements with Radio Holland to market the system.

Claimed to be easier to install - the NetWave S-VDR

ABB sign contracts worth $80 million

www.abb.com

Power and automation technology group ABB has signed contracts to supply its electrical power and automation systems to 14 vessels, including three 14 Megawatt (MW) units for Royal Caribbean, and electrical propulsion systems for Aker Langsten, Ulstein Verft, the Gdansk Ship Repair Yard, and Rolls Royce.

There are contracts with Samsung Heavy Industries to supply power and automation systems on new vessels for AP Møller and Stena Drilling.

The contracts are worth $80 million in total. Deliveries range from late 2006 until early 2008.

AIS display on radar

Displaying AIS data on radar and electronic charts continues to be a hot topic. Dr Andy Norris reports

AIS REMAINS HIGH on the agenda of the conference circuit.

In October AIS/05 was held in Seattle, this is a conference dedicated to AIS. Also AIS formed the major topic of the marine day at the Royal Institute of Navigation conference held in London in November (NAV05).

This continued interest arises from the exploration of all the possibilities that AIS has to offer, despite aspects of negativity that arose from its initial introduction onto SOLAS vessels.

Some of the negativity came from a misconception of what the MKD (Minimum Keyboard and Display) implementation was aimed at.

The MKD provides ship's positional and other data to shore-based stations for VTS and security purposes.

It also provides facilities that can be used to improve situational awareness on own-ship by giving detailed information on selected targets, normally initially identified visually or by radar.

Importantly, it also offers an interface to allow AIS data to be displayed on other equipment such as radar and ECDIS. It is when AIS is properly integrated with radar data that its full capability in enhancing own-ship situational awareness is realised.

On radar

From 1 July 2008 all new radars will have to be able to display AIS data in an IMO prescribed manner.

This will obviously start to increase the number of properly integrated systems in use but it will be many years before most SOLAS vessels have such a facility.

This was highlighted in the September issue of *Digital Ship*, in the article on Class B AIS and was further discussed at NAV05.

On electronic charts

At AIS/05 James Rocco from the United States Coast Guard referenced the work they were doing towards the requirement from Congress for the mandated use of ECS (electronic chart systems) in US waters.

Recognising the poor displays that are generally available on AIS equipment, it was being considered that the mandated ECS should be additionally required to have good AIS display facilities.

Despite the advantages of AIS integrated with radar, it is unfeasible for the USCG to mandate the integration of radar with AIS on such displays, simply because most existing radars do not have a suitable interface. Also, ECS carriage requirements may extend to vessels that do not carry radar.

Congress requires the law be in place by 1 January 2007. The USCG is currently seeking opinion from interested parties before the wording is completed. The law will determine the implementation date(s) for ECS carriage requirements, which is likely to be well after January 2007.

Linking radar and AIS targets

IMO recognises that the real benefit of AIS comes when it is integrated with radar information.

The new radar standard requires that equipment should have a user-set option to allow AIS targets to be automatically associated with radar tracked targets.

In this instance the display need only show a single symbol for that target, reducing the complexity of the displayed information.

Not surprisingly, this has caused some controversy - won't false associations create additional dangers?

To a certain extent the jury is still out on this but there are growing reasons to think that safe and effective systems can be designed.

Navigation systems are greatly enhanced by having two methods of determining the same navigational data.

The greater the independence the better, and so a radar combined with AIS can give significantly improved integrity over a dual radar system.

This is because most of the detection and error processes of radar and AIS are completely independent of each other.

This independence means that a target 'seen' on both radar and AIS has a particularly high 'certainty' associated with it. (The undoubted significance of visual observation is ignored for this discussion).

The difficulty, of course, is to be absolutely sure that the navigational data from radar and AIS are sufficiently similar to be considered to be a single target, despite there being indeterminable inaccuracies in both systems and that AIS is fundamentally ground based and radar is relative to own-ship.

Surprisingly to some, the inherent random errors in AIS are normally far smaller than that of radar. It is the systematic errors of poorly set-up AIS equipment that have caused AIS data to have a bad name.

Fortunately and importantly, systematic errors prohibit association. It is also highly unlikely that systematic errors would give a false association with another target, except for brief time instances, which a good association algorithm would be able to detect as being suspect.

Target association is not a new science; military and air surveillance activities have used target fusion for many years. (Fusion is the process of forming one display entity after the target data has been associated).

All the position, speed and course parameters of AIS and radar can be compared to determine whether the target data can be associated.

Also, as already mentioned the variation of these with time is important to prevent false associations - and also to retain association when the target is changing course and the radar tracking data is therefore likely to be poor.

Although human operators are good at associating a small number of targets there is too much data involved for humans to deal with when the target count increases. So, in many situations automatic processes are needed to ensure high integrity in applying suitable association criteria, thereby reducing the complexity of the display.

Target on radar - no AIS

The advantages of association extend beyond the clear advantage of reducing the complexity of the displayed image.

It draws attention to targets that are not associated [ie showing up on the radar but without an AIS symbol]. This begs the question - why is there not an associated AIS target?

In many case this may be due to the radar-observed target not having an AIS fitted or that fitted equipment is faulty or switched off.

There may be a set-up error in the target's AIS equipment, causing a systematic, semi-permanent error. Heading and GPS datum offsets remain a continuing problem (but much reduced from the early days of AIS).

If only an AIS target is displayed it may mean that the radar return is obscured by clutter or by line of sight obscuration and therefore no track can be formed..

If all or most targets are non-associated it points to errors in own-ship equipment, which may have been difficult to detect without AIS. This could be due to problems with the radar, heading sensor, position fix system or the AIS equipment itself.

Lack of association can also draw attention to other useful information.

For instance, on a recent visit to a ship operating out of Seattle that was fitted with a new Furuno radar with AIS association facilities, two targets with very similar speeds and courses were seen to be not correlating because of a small difference in position.

On closer inspection it became apparent that the ARPA had locked onto a towed barge and the AIS was obtaining information from the vessel which was doing the towing. This instance had highlighted the towing situation, which was previously not evident to us.

Although the visit was undertaken in conditions that did not stretch the equipment, the observed association performance on regular targets was excellent. Sensible user-chosen parameters for association had been assigned by the master, giving a clear uncluttered display.

The bridge officers had used the equipment in many conditions and were very enthusiastic about displaying AIS on radar and also about the operational value of association - and non-association.

The enthusiasm for the system was apparently shared by bridge officers on other vessels of the fleet that had also been fitted with the same system.

The safety significance of AIS targets being displayed on radar should not be underestimated.

DS

Mixing different equipment

Most ships have a range of different technology equipment from different eras all working together - and there's nothing wrong with that, writes Steve Harding

WE HAVE SEEN MUCH 'churn' in technology at sea, of course.

With the successful launch of Inmarsat's fourth generation satellites, designed to provide global 3g mobile communications, and their collaboration with terrestrial wireless providers, the company appears to be manoeuvring itself towards a business model offering cost-optimised broadband services to ships; I wonder where that idea came from?

Those ship owners who have recently invested in high-cost fixed-mobile satellite terminals must feel a little like the home-owner who bought a rear-projection TV just before LCD/ Plasma displays hit the shops.

Fear not. While I may have told those who were contemplating moving all ship-shore communications onto a single satellite platform to be patient and wait for 3G marine communication to evolve, no real damage has been done. It will still be possible to access what will be the shipping industry's key driver for future commercial prosperity, and its safety and security: broadband communications.

True, some of the terminals may need some adapting, but providing the underlying data standards are not queered, they'll do; but you should still have waited!

And what of the role of the regulators in this world of rapidly evolving technology? Have they a role at all?

Yes, but not in the way they would wish, perhaps.

In a recent statement to the Royal Institute of Navigation, the UK Shipping Minister, in a rather disparaging way drew attention to the fact that the bridge of a typical merchant ship is awash with different generations of navigation technologies, the display equipment neither integrated or prioritised.

To which I say: the use of different generations of navigation technology does not result in poor integration or prioritisation. As argued above, it is only through bringing in new technology alongside the old can strength be built into a system.

With respect, I suggest the Minister takes a look in the mirror. If a ship has poorly integrated or prioritised navigation technology, why is it issued with a SOLAS Safety or ISM Certificates each year without question? There is no ambiguity in IMO regulation here.

Now to be fair, in his speech the Minister recognises that there is a problem with the structure of maritime navigation and communications regulation. Furthermore, and where he can be applauded, that the future rests with e-navigation, which requires the secure, broadband ship-shore communications the industry is now embracing through 3G technology.

True, it would have been nice for the Minister to give due reference to those who have said this for years, but let's not be churlish: he got there eventually.

What I fear is the Minister's proposals will be used as nothing more than a smokescreen to increase the size and mendacious influence of regulatory bodies, who have no remit other than to establish functional goals and must never meddle in areas best left to the market to determine, such as the evolution of technology onboard ships.

Incidentally, this is a role that could be performed by no more than a handful of key personnel with direct shipping (not shore-based!) expertise.

It is interesting to note how our regulatory forefathers faced up to the shock of the then new wireless technology onboard ships nearly a century ago, concluding: "In the matter of radiotelegraphy nothing is certain but the unexpected...The regulations which we prescribe will be applied to a science still in its infancy. It is necessary not to smother the infant with its own swaddling clothes."

Alas, were a IMO member to even think such thoughts today, never mind espouse them in public, the Secretary General himself would throw them into the Thames!

Home TV

With not much cricket or football about, I dipped into 'This Old House with Steve and Norm' on TV the other day.

For those not familiar, the programme follows the renovation of grandiose houses, mostly in New England.

As the last show in this series, the presenter Steve Thomas, who is a noted mariner by the way, conducted his inspection of the completed project.

No expense had been spared to ensure the 'new', while providing the standard required in a modern house, did not undermine the character of the old.

The exception was the 'state-of-the-art' entertainment centre.

Oh dear. A room the size of St Paul's Cathedral housed the equipment. No doubt the stability of the Northeast seaboard's electricity grid was put under threat each time it was switched on. And there were more cables linking it all together than suspend the Golden Gate Bridge.

But it was the display that brought home how much things have changed since the programme was made.

Those rear projection screens must have been in vogue once, provided you had the cash, and lots of it. Now you can purchase a far superior LCD or Plasma screen of almost any size for a few thousand dollars, its pictures from miniaturised equipment with no wires, other than to provide low-voltage power supplies whose demands can be met from a solar panel on the roof.

I watched through to the end to check out the titles; surely the programme had to be ancient? It was copyright 2002!

Even I, who makes a point of keeping his finger-on-the-pulse had underestimated how rapidly technology has evolved over the past couple of years. The owner of 'this old house' must surely be a little miffed to see his investment rendered obsolete so quickly.

There again, I'm one to criticise given my own procurement of multimedia technology, as you can see from the photograph. For identification purposes: 'A' is a satellite decoder obtained in 2000; 'B' an integrated CD/Radio/Tape system of 1992 vintage; 'C' a terrestrial digital TV decoder purchased earlier this year and 'D' one of the first DVD recorders to hit the shops in late 2002.

Steve Harding's living room TV set-up

Those with long memories will recall I've previously discussed my DVD recorder, viewing it to be a radical technology development with unbounded potential.

I was not wrong; I seldom am on such matters! The technology has rapidly reached critical mass, rather faster than I thought in fact. Now you can buy a DVD recorder half the size of my own for as little as $100; and I recently purchased 50 blank disks for $17.

As I paid $750 for my own battleship, and upwards of $3 a disk not so long back, this should make me sick. And a normal man would surely be depressed by having a home awash with different generations of not always complementary bolt-on technologies, not to mention the four different remote control units requiring the new and different skills just to watch TV.

I'm neither sick nor depressed; nor am I confused by remotes. Admittedly I'd rather have paid today's price for a DVD recorder. And clearly there are sound aesthetic and practical reasons for consolidating my TV's data sources, placing them under the control of a single controller. If nothing else, I'd lose the forest of SCART and power leads that you cannot see in the picture.

But that's the point: you can't see the wires; who cares? Moreover, my multimedia may be a mish-mash, but it delivers the goods.

And for these past years I have had the opportunity to pioneer the DVD recording, applying a technology far superior to the tape most others chose to persist with, a distinct commercial advantage to any company who similarly pioneers new technology.

In short, providing the defined primary function is fulfilled, I can watch a game of cricket in Pakistan, mixing different generations of technology within a system is a complete non-issue. Indeed, as 'Steve and Norm' demonstrate, blending the 'new' with the 'old' is the most efficient means to lever improvements in a system.

And by the way, as for the single controller, in truth I find this to be more trouble than it's worth. Unless I 'remember' to reconfigure each time, more often than not I end up changing the TV channel each time I try to switch the DVD off, and vice versa. Good job that single control station isn't being used to navigate a ship!

Better to use separate controllers, which minimizes the risk of human error, and should the batteries on one go flat, I can always double up on the other. A message there, somewhere. DS

Seabourn pirate attack foiled by sonic weapon

The pirates who attacked cruise ship Seabourn Spirit off the coast of Somalia were foiled when the ship used a device which gives off an ear splittingly loud noise.

The device, known as a 'Long Range Acoustic Device' (LRAD), measures 84cm (33 inches) across and weighs 20kg (45lb), and costs approximately $30,000. It was installed as part of the ship's defence systems.

The LRAD is a non-lethal weapon developed for the US military to keep operators of small boats from approaching U.S. warships, which became a concern after the 2000 Al-Qaeda attack on the USS Cole off Yemen.

The military version is a dish-shaped device, which is directed as a high-pitched, piercing tone with a tight beam, and is regularly used by US and UK forces aiming to prevent attacks on ports at the mouth of the Tigris in southern Iraq.

US troops have also used the LRAD in action in the Iraqi cities of Fallujah and Baghdad, and it was deployed for crowd control in New Orleans in the wake of Hurricane Katrina.

American Technology Corp, who makes the device, compares the shrill tones to that of smoke detectors, only much louder, in the range of about 150 decibels. This system is capable of causing permanent damage to hearing from a distance of more than 984 ft.

About 120-130 decibel sounds starts to produce pain.

The system has been deployed on commercial and naval vessels since 2003, the company said.

Shipboard security personnel activated the system after the attackers fired rocket-propelled grenades and machine guns at the 10,000 ton liner.

Digital Ship understands that the pirates tried to fire a rocket propelled grenade at the bridge window, not being aware that the vessel had a lounge deck above the bridge, so the grenades hit the lounge deck instead; the lounge was empty because it was 6am. The pirates boarded the vessel but were forced off by the vessel's security team.

The vessel is now docked in the Seychelles, and the cruise line is investigating the role of the LRAD in warding off the pirates.

One further, and very serious, issue that arises from this incident is the question of how the pirates were able to track and locate the vessel when it was one hundred miles from shore - quite probably by picking up position data sent through its Automatic Identification System (AIS), if it was still switched on.

There have been questions for some time about the possible security risks associated with having a freely accessible vessel tracking system like AIS.

We asked resident *Digital Ship* communications and tracking expert Steve Harding for his take on this possible abuse of AIS, and its implications.

"I think the recent attack on the passenger vessel off Somalia could have implications for IMO AIS policy should there be the slightest suspicion that pirates are using the technology to track suitable vessels to attack; and it must be assumed they are", he said. DS

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