Sperry Marine to supply IBS for 12 new container ships

www.sperry-marine.com

China Shipbuilding Corp. has placed an order for 12 Sperry Marine Integrated Bridge Systems for newbuilds at its Korea shipyard for Chilean ship owner Compañia Sudamericana de Vapores (CSAV).

The IBS integrates all the navigation and steering control systems resulting in improved awareness of the ship's course with radar overlay and display on an electronic chart system.

The system will include Differential GPS, AIS, VDR, echo sounder, radar and gyro compass, Fleet 77 terminal and other information and control systems. Sperry's Navipilot 4000 that helps to optimize fuel consumption is also part of the package. This is a self-tuning autopilot system that takes into account ship loading dynamics and weather conditions and makes minimal rudder movements to keep the ship on course.

As part of the contract, Sperry Marine will also provide support for installation, interfacing, commissioning and crew training. Sperry Marine is a business unit of Northrop Grumman.

Univan has first ABS ISPS audited vessel with security alert system

www.eagle.org

Shipmanagement company Univan has decided to meet its ISPS code requirements well ahead of time by installing Pole Star Space Application's Purplefinder DSAS solution on its "C Dream" VLCC tanker.

Most vessel types, including tankers, will be required to have a security alert system in place by 1 July 2004.

The system comprises multiple ship alert activation points, which can be moved around, and a concealed hardened transmitter with no visible antenna that potential hijackers would find hard to identify.

Using Purplefinder can also bring commercial benefits beyond the quick response to a pirate or terrorist attack. Using accurate position data Univan can track its fleet for analysis purposes and provide value added services to its customers. It can also take part in schemes whereby position data is made available to recognized agents such as a port or coastguard.

Atlas Elektronik to upgrade Shenzhen VTS

www.atlas.de

Atlas Elektronik of Bremen has won a $800,000 contract to upgrade VTS facilities at Shenzhen, one of China's fastest growing container ports on the mouth of the Pearl River.

The present radar station will be fitted with new CCTV facilities, with an additional station to be established at Beizaijiao, close to Yantian on the Eastern side of Hong Kong, with installation of a Atlas radar transceiver, CCTV, dual AIS base station and 3 channel VHF facilities. Both sites are connected to the port VTS control centre by 2 mpbs data link.

The control centre will be equipped with four PC workstations which can display the traffic and the management information system, as well as CCTV monitors.

Tideland Maritime and Norcontrol develop vessel monitoring system

www.tidelandmaritime.com

Tideland Maritime Systems and Norcontrol IT has jointly developed V-Track Modular, a vessel identification and monitoring system, to help ports comply with the ISPS code. It identifies ships using AIS and also picks up information from radar, with everything displayed on a chart.

SAM Electronics launches ship security alert system

www.sam-electronics.de

SAM Electronics has launched Debeg 3200, a ship security alert system, with a mini Inmarsat C terminal, mast mount kit, interconnection box, two alert buttons and cabling. The system has a test mode. Options include a battery pack, supplementary alert panels and add on software upgrades.
The information can be relayed by e-mail, GSM, fax and telex, to the shipping company and to anti-piracy centres.

ChartCo upgrades 1000 ships software

www.chartco.com

Maritime data broadcast service ChartCo has upgraded its shipboard user software, oceanMaster, remotely on 1000 ships at sea.

The new software can support the digital nautical publications products from the UKHO, with a number of other general enhancements.

ChartCo supplies navigation, weather and news services to all different types of shipping companies, but particularly oil tankers and bulk cargo vessels.

Marex Socal installs new Tideland marine AIS system

www.marineexchange.org

The Marine Exchange of Southern California is currently testing an AIS shore station installed by Tideland Marine for its jointly operated Marine Exchange / USCG Vessel Traffic System (VTS-LA/LB).

This monitors traffic in a large area around the port extending 25 nautical miles into the bay, covering over 28,000 deep water and coastal vessel transits each year.

The system will gather information from vessels in the area, reducing the need for radio and radar contact and allowing operators more time to co-ordinate vessels movements and ensure safety standards. It is an additional component to the NorControl IT VTS-5060 vessel traffic system already in place at the port.

In addition to increasing the efficiency and safety of port operations, the AIS station will help to meet the need for tighter security precautions by assisting in the identification of suspect vessels and raising alarms. The accurate position and velocity data will be used to co-ordinate a response, while anomalous AIS data will give an indication of a high risk vessel.

The VTS-LA/LB is also responsible for facilitating the passage of tankers to a ChevronTexaco offshore oil refinery and US Navy ships to the Seal Beach Naval Weapons Center.

Kongsberg receives largest ever German orders

www.kongsberg.com

Kongsberg will supply owners Reederei Claus-Peter Offen in Hamburg with its AutoChief 4 propulsion control system for 30 newbuilds.

It will also be installing 22 of the vessels with the DataChief C20 Integrated Automation System. This represents its largest ever newbuilding order from a German owner.

The AutoChief 4 allows the engines to be controlled from various points on the vessel, monitors safety parameters and administers limiting functions. It is designed for low and medium speed diesel engines with fixed propellers.

The DataChief C20 is a comprehensive alarm, monitoring and control system which offers extra functionality for ballast automation, air conditioning management, and information management.

The Kongsberg solutions were chosen for their functionality, modular design and cost effectiveness. The vessels will be built in several shipyard in Korea, where Kongsberg maintains a growing presence.

Meanwhile the AutoChief C20 propulsion control system for low to medium speed diesel engines has received the Award for Design Excellence from the Norwegian Design Council (NDC). The award recognizes design elements that help to improve usability and provide advantages to the operator as well as aesthetic appeal.

"The AutoChief C20 is a consistent and complete control panel for larger ships where the functionality is considerably simplified and improved. The pure visual design is intuitive, it has good tactility and feedback to the user. This is a professional and uncluttered product of high quality, with good aesthetics and high durability," said the NDC.

Qinetiq to supply advanced mast technology to UK Royal Navy

UK technology company QinetiQ (previously DERA) has won a contract to provide a communications and radar mast for the Royal Navy's flagship aircraft carrier, HMS Ark Royal.

All the communications equipment is protected behind an outer skin, to protect the equipment from the elements, reduce the amount of replacement / maintenance required and also make access to the equipment safer.

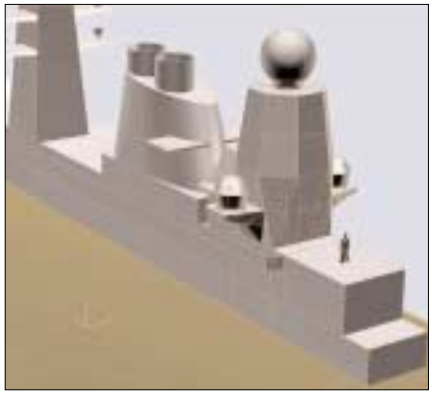
The mast is intended to be maintenance free, lighter and stealthier than conventional masts. Equipment is enclosed within the structure, protecting it from the environment.

The mast is due into service in late 2005 and QinetiQ believes it is likely to become common place on future warships.

The mast will carry a wide variety of radio frequency transmitters and receivers ranging from essential systems such as radar through to those carried for purely entertainment purposes such as televisions and radios.

Maintaining the equipment within the protection of the mast is safer than if they are on a conventional mast, where scaffolding is required.

The outer skin of the mast is made from frequency selective or 'tuned' composites and allows radar and communications equipment to 'see out'. The skins are manufactured using existing and well-established shipyard techniques.



The QinetiQ enclosed ship communications mast

The contract follows many years of development funded by the UK Ministry of Defence (MOD)..

Electronic charts not a gloomy picture, says C-MAP

Electronic chart specialist C-MAP reports that shipping companies are actually moving to fit electronic charts, and the picture is not so gloomy as many others in the industry say it is.

The company currently has systems on 15,000 professional vessels (fishing, navy, rescue, pilot, research vessels) and around 1 million recreational vessels, although only 15 per cent of the SOLAS fleet. This is an area where the company intends to expand.

The charts are also used in vessel traffic systems, simulators, as AIS displays, for fleet management and for navy command systems.

It is producing official electronic charts for hydographic offices in Italy, Norway, South Africa, Greece, Colombia, Malaysia, and the fisheries and bathymetric database of the Nordic Hydrographic Offices.

There are only two companies producing software to display electronic charts: C-MAP and Transas. C-MAP licenses its chart display software to most of the bridge manufacturers (not to Transas).

C-MAP's goal is firmly to be the leader in distribution and support of digital navigation for the high seas fleet, and be an entrepreneur in the development of products for safe navigation.

It has produced its own series of vector electronic charts for the whole world which shipping companies can use as an alternative where the official electronic charts from hydrographic offices are not available (although they are only allowed to be dependent on them for navigation).

The C-MAP vector charts are much cheaper than the official electronic vector charts; shipping companies can buy a CD-ROM of the whole world, which works out at around 33 cents for each individual chart, compared to around $14 for an official vector chart.

Updating all the C-MAP charts in the world requires about 800 kilobytes a month, at 64 kpbs and $3 a minute (Inmarsat Fleet 77 ISDN charges) this would be just $5 satcom bill. And the charts get updated automatically.

CM-93

C-MAP's position in the chart distribution system is well sewn up. Because of the difficulties in getting official ENC charts running directly onboard ships, the ENCs are converted into a C-MAP proprietary format, called CM-93.

The CM-93 files, the company says, are easier to run on ships and also have much smaller file sizes (just 7 per cent of the size of the standard file).

However the format is owned by C-MAP; so once ships are used to receiving CM-93 files C-MAP will have a degree of control over the distribution chain. DS

DNV seafarer standards

Class society Det Norske Veritas has launched a system of seafarer competence standards, ensuring that seafarers from different nations, cultures and training institutes have a common, acceptable level of knowledge, skill and attitude.

Standard seafarer certificates, DNV says, only provide a partial picture of true competence because they give no indication as to the employee's attitude, only his skill and knowledge.

The idea is to build up a system of "classification" of personnel, also classifying shipping companies, training academies and training providers.

The system should fulfil the needs of ship-owners, management companies, crewing agencies, authorities, yards, training institutions and other players.

"Maritime academies, training schools, authorities and ship managers have all expressed a desire to see a global system of standards in place. DNV is responding to this demand in the market," says the company.

Need more competence

Modern ships have fewer crew but they need to be constantly updated on new technologies.

Meanwhile charterers are demanding more sophisticated logistics services, as well as increased safety and environmentally friendly operations.

The ISPS security requirements further drive up the training requirements of seafarers.

DNV strongly believes that the maritime training on offer today is fragmented and varies widely in content and quality, with seafarers trained all over the world.

DNV also believes that seafarers trained to the minimum standards is no longer acceptable.

"The industry has long since progressed beyond the minimum levels laid down by statutory requirements," says DNV.

"Today's maritime industry needs people who don't just have a ticket to trade, but are competent and able to perform their duties in the most effective manner possible."

The program

There is a competency management system certification, for shipowners, shipyards and regulatory authorities. This focuses on the ability of an organisation to plan, define, develop and improve the competence of employees, according to external requirements and defined business goals.

Then there is a training certification, intended to assess the quality of training, independent of location, operation and method. The DNV SeaSkill Standard of Certification of Learning Programmes is available.

Finally there are the DNV standards of competence for individuals, enabling DNV to offer Certificates of Competence for various non-STCW positions.

Around 200 training organisations globally have already been certified by DNV to train and assess if people and organisations meet the standards.

All certificates are only issued upon passing of appropriate examinations, conducted either by DNV or DNV-approved examination institutes.

The certificates are normally renewed every 3 years, with the candidate being required to pass an updated examination.

The certificates issued by DNV are renewable, usually every three years. To do this, the candidate has to pass an updated examination.

DNV hopes that the standards will eventually become a basis for competence management systems, training courses, testing and certification of individuals.

DNV is putting together committees of shipping experts to make sure it has a shipping company view on how to evolve them.

Further information about the program is available on www.seaskill.com.

Lyngsøe and ship automation

Lyngsøe Marine, of Denmark is moving ahead with services to supply the entire automation systems for a vessel, covering all aspects of loading, including remote control of valves and monitoring, integrating directly with the loading computer.

Recent contracts were with BP tankers newbuild in South Korea, fitting integrated alarm and control systems, with Transpetrol of Belgium and Lavrin Maritime of Sweden. A number of Maersk tankers use the system exclusively.

The tools allow certain ship engine to be controlled from the ship bridge or office.

Having a single central system for monitoring the ship ought to be simpler and easier than having several different operating systems around the ship, for example in the engine room.

For example, all of the cargo operations can be controlled from the ship's office, including turning all the necessary pumps on and off and controlling the power. The controls can be linked directly to the ship's loading computer, which can make continual calculations as to the stability of the vessel, or if the seafarer is doing something illegal under shipping law.

Lyngsøe works closely together with Kockumation, which produces loading computers, as well as the LoadStar loading computer developed by Maersk.

The alarms can also be in a central place on the ship, enabling seafarers to see at a glance if anything is going wrong.

Several pump and engine manufacturers are improving the level of electronic control of their equipment, notably MAN B+W with its electronic engines, profiled elsewhere in this issue. Having electronic controls makes it much easier for the system to be controlled from the ship's bridge.

The service Lyngsøe provides is to build the system, install it on the ship and provide all necessary training.

Hernis develops CCTV intelligence

Norwegian maritime security equipment manufacturer Hernis has developed a computer system which can analyse data from closed circuit television cameras on the ship.

Closed circuit television installations look very good for when the security inspectors come onboard, because it looks like you have somebody watching all aspects of the ship at all times.

But as all ship operations people know, CCTV cameras are only any use if you can afford to employ someone to look at the television pictures all the time, which you invariably cannot. So how about analysing the pictures by computer?

"You can have automatic motion detection [sound an alarm when there are moving objects]," says Hernis marketing director Tom Canterro.

"You can have a system which automatically switches on lights if it detects any movement, sets off firehoses, or activates a recorded warning voice," he says. "Its telling you someone has seen you and someone's at home."

If there is an alarm, then a human being can look at the television picture, controlling the camera remotely, and see if there is anything happening.

One useful application for CCTV on ships is to see blind spots; around the ship which cannot be monitored easily from the bridge (for example because of the funnel).

Hernis has developed a computer tool enabling the user to see all the camera pictures on a computer display. Using the computer, the user can zoom, turn and tilt the cameras, or make the picture larger on the screen.

Closed circuit cameras around the ship, linked with a computer console system

The company has been supplying CCTV systems for marine oil and gas installations for around 20 years, including LNG plants and refineries. It also works with navies in the UK, US, Australia, South Africa and Norway.

There is a wide range of different equipment, including intrinsically safe cameras for use in hazardous environments (the camera does not have any electrical charge large enough to start a fire) and cheaper mini-cameras.

Seawave's communications box

Seawave, based in Rhode Island, USA, produces a hardware device which will automatically work out the best route for voice and e-mail. It includes built in Iridium, GSM and GPS and allows external Inmarsat systems to be added.

There are several pieces of software on the market to manage shipboard e-mail, but Seawave has an alternative system - all the necessary software and electronics is supplied in one hardware device called the SeaWave Integrator 3.0.

The Seawave Integrator 3.0 can act as the shipboard computer server, facilitating all your shipboard computers. Each computer is then assigned an IP address, making the networking much simpler than using just PCs.

SeaWave hardware is designed to better cope with the rigours of maritime use than standard PCs. Enclosed in a metal case, the hard drives are shock-mounted and automatically backed up. One hard drive mirrors the other in the event the first one fails.

Shipping companies can plug Inmarsat, Iridium and GSM antennas into the back of the box; the software will choose the cheapest available option for the message.

The box costs $3,500 to $4,000 with various internal communications options available. These include Iridium satellite modem, GSM modem, GPS, required cables and antennas.

SeaWave's Throughput Technology Software (TTS) provides sophisticated functionality to pick up communications where you left them off if they are broken, even over a different communications route. For example, if a ship is downloading e-mail over GSM then loses the connection because it goes out of GSM coverage, it can download the rest of the message over Inmarsat. TTS is full duplex which allows the device to send

continued on page 7

The Seawave box: plug in a computer and a satcom and you've got economical ship shore e-mail

continued from page 6

and receive simultaneously, using compression which at times can be as effective as 90%.

To save the ship dialing up Inmarsat all day long to see if it has any messages, a free text message is sent to the Iridium device internal to the hardware, notifying the crew when there are e-mails to collect via the Inmarsat system.

Mark Witsaman, SeaWave's vice president of technology and development , says that if the customer has a Fleet system with MPDS, it is likely that almost all the data will be pushed through MPDS, as the cheapest route, apart from very large files. "MPDS is almost always worth using," he says.

If the shipping company is using a mixture of Inmarsat -A and Iridium, then small e-mails will be sent through Iridium and larger e-mails through Inmarsat -A.

When connected to a printer, the box can display or print a seafarers' individual bill so they can see exactly where they are in terms of spending.

The software in the SeaWave Integrator 3.0 comes with an extensive help system. However, the company notes that most of the problems shipping companies experience are with networking issues.

Seawave users can open their own accounts on shore by phone or SeaWave's Web site, or they can easily open an account from sea. Users can also pay for their data communications directly, without bothering the shipping company.

When users download their e-mails, they can see the size, date, subject, sender and even attachments of all the e-mails before they download them; if they don't want to pay the satellite charges for downloading the e-mails from the ship, they can wait until they get home or to an internet cafe in a port and download them for free using SeaWave's Web portal mySeaWave.

All e-mails downloaded on the ship are actually stored inside the Seawave Integrator 3.0, so the seafarer can access them any time he likes without having to receive the satcoms again.

Seawave operates the e-mail server, so it can automatically filter out SPAM and viruses. Administrators and users can also define what they perceive as SPAM using keywords for example, or by sender address.

SeaWave Integrator 3.0 simplifies administration, helps control communications expenditures and works with myriad communication mediums, including Inmarsat, for optimal communications at sea.

V.Ships piloting WAVE

Shipmangement company V.Ships is trialling Wave, the equipment optimisation software developed by Resurgence Software.

The software tool records and analyses the performance of different equipment onboard the ship. This enables to shipping company to work out which equipment proves the most reliable over a period of time and adjust future purchasing decisions accordingly.

Under the trial, V.Ships will use the software on a portion of its technically managed vessels, and also integrate the software with its existing proprietary planned mainte-

continued on page 8

continued from page 7

nance software, ShipSure Maintainer.

The Wave software is endorsed by UK class society Lloyds Register, which markets the software in the United Kingdom.

Arild Farbrot, divisional technical director of V.Ships, says: "V.Ships is always looking for ways to make fleet management more efficient."

"We hope to prove with this pilot that Wave's unique focus on benchmarking and criticality analysis will allow us to operate vessels more reliably and efficiently and at lower cost."

"Wave offers owners and operators enormous potential benefits," says Jacqui Knight, product manager for Wave at Lloyd's Register.

"It can help to impact positively a substantial portion of operating costs, in particular working towards optimising maintenance strategies.

Brittany Ferries to use Telenor VSAT service

www.telenor.com/satellite

Telenor has announced a three year agreement with Brittany Ferries to supply Ku band ship-shore satellite communications services on two vessels, Val de Loire and Pont Aven, with options to install an additional 6 systems on the rest of the fleet.

The system will work at up to 192 kbps, providing e-mail, fax and telephone service to passengers and crew throughout Western Europe.

The system has already been installed on Val de Loire and will be installed in Pont Aven in "early 2004".

"Our selection of the Sealink maritime VSAT system, with its industry-leading record of reliability and end-to-end quality control, is proof of our ongoing commitment to our customers," said François Seminel, directeur informatique for Brittany Ferries.

Using Telenor VSAT: The Brittany Ferries Pont Aven, to be launched in Spring 2004. 18 hours from Plymouth to Santander, Spain

Developments at Resurgence Software

www.resurgence-software.com/

Shipmanagement company V.Ships is to integrate Resurgence Software's Wave equipment analysis and maintenance planning software with its own ShipSure planned maintenance system on a limited number of its technically managed vessels. The software is designed to increase the efficiency of maintenance by predicting critical failures and prioritizing work schedules.

The software uses a range of analysis tools to identify maintenance trends and to increase the safety and reliability of equipment while reducing maintenance costs. Maintenance spending is linked to the criticality of the equipment, and prioritized according to the impact on operations, resulting in less chance of failure and downtime.

V.Ships hopes the product will help it to increase value for its customers and to improve its service. It may also result in longer equipment lifetime, identifying early of faulty equipment and elimination of unnecessary maintenance.

Meanwhile the Wave system has been updated to Wave Version 2003, Release 2, which has several new functions.

Two statistical equipment performance indicators have been added, to monitor the efficiency of individual pieces of equipment and their dependencies on other components. Equipment performance can also be linked to mission criticality at a fleet wide level, and poor equipment performance can be identified.

A key feature of Wave is its ability to compare equipment against industry benchmarks. The benchmarking indicators have been increased from one to seven allowing more detailed comparison of the same equipment across different fleets and different operation conditions. This makes it easier to predict failure and assist in identifying specific problems.

editor's comment

Demonstrating competence with satcoms

How can shipping companies use satellite communications tools to demonstrate that the ships are safe, secure and well run?

In shipping, just like any other industry, it's not always what you actually do that counts. Its what you can demonstrate what you can do and what authorities and charterers perceive that you can do.

Shipping company people are technical, operations people, that like to understand things as they actually are, rather than the way other people see them. And shipping companies are extremely safe and have improved their safety records dramatically over the past 30 years.

But at the same time many voters and politicians they elect see the industry has being very secretive, dangerous and not very environmentally friendly, and put pressure on the regulators to try to do something about it, creating legislation which does not necessarily help the industry operate in a quality manner.

Besides, public demand from ship safety seems to have just changed from being tolerant of a few accidents here and there to being completely intolerant of any accidents at all, and the politicians need to impose regulation which follows the public will.

If your ships ever get into problems, wherever they are in the world, recent experience has demonstrated that they will be quickly swarming with government people out to satisfy demands from an angry public to find out what is going on.

As a shipping company, in these circumstances would you prefer to be invisible for a few days, waiting for journalists, regulators and environmentalists to find you? Or do you think it would be better to be completely visible right from the outset, with clear evidence on the ship that you know exactly where your ships are, you are in constant contact and you are making sure everything is being well run onboard?

Regulators want to feel comfortable that your ship is safe and secure - it is probably fair to say that it is easier to make them feel comfortable by fitting devices on your ship which they can actually see, such as satcoms, software, CCTV cameras and double hulls, rather than investing in training and maintenance which they can't see, no matter what you personally think is the best way to improve security.

Sending photographs back to shore is a very useful tool and something you can easily demonstrate. If there are any concerns about equipment or maybe corrosion on the ship, seafarers can send electronic photographs to experts on shore to ask their advice.

There are ways you can monitor what is happening on the ship. For example, you can fit hull stress monitoring devices, which help you work out if the hull is likely to come under destructive stresses. This is also something you can demonstrate to safety regulators.

Communications tools can be very useful in seafarer training. Seafarers can supplement their shipboard books, videos and CD-ROMs with communication with an experienced shore based instructor, who can co-ordinate practical training exercises on the ship and advise seafarers about which areas they need to learn more about. These are also things easy to demonstrate.

One of the biggest safety issues is with cargo and fuel transfer. Satcoms tools enables shipping lines to remotely monitor the behaviour of cargos.Alarms can be sounded in both the ship bridge and the shore office if something serious is happening, for example water ingress to the hold. The shipping company staff can check that the tanks are filled to a sensible level and not overfilled.

Knowing exactly who is on your ship at any time is also a useful tool, as ships are required to fit access control systems as required under the ISPS code. How about a software system which can, on demand, send you a list of all the persons thought to be onboard?

One big fear regulators have is that a terrorist could gain control of a gas carrier and reprogram the AIS so that it transmits data saying that it is a relatively harmless bulk carrier and the authorities are none the wiser until the vessel blows itself up close to a residential area.

You could get an alert every time the AIS is reprogrammed, for example giving the captain a special code he has to input, which will inform you about whether the AIS is being reprogrammed voluntarily or under duress.

Karl Jeffery