Maersk and IBM launch blockchain platform

A P. Moller-Maersk and IBM have announced the launch of their new blockchain venture TradeLens, following on from the companies’ January announcement of their intention to work together to leverage blockchain technologies to improve the efficiency of the global supply chain.

Based on feedback gathered since that January statement the companies have modified their go to market model and will now deliver the system through an extension of their pre-existing collaboration agreement, instead of creating a joint venture as was originally announced. TradeLens is expected to be fully commercially available by the end of this year.

“Our joint collaboration model allows us to better address key feedback from ecosystem participants while ensuring TradeLens interoperability and data protection among Maersk, IBM and all ecosystem participants. We strongly believe this will maximise industry adoption,” said Mike White, TradeLens leader for Maersk.

TradeLens uses IBM blockchain technology to create ‘digital supply chains’, allowing multiple trading partners to access a single shared view of a transaction without compromising privacy or confidentiality, and giving stakeholders real-time access to shipping data and documents, including IoT and sensor data ranging from temperature control to container weight.

The platform incorporates blockchain smart contracts to underpin its trade document module, released under a beta programme and called ClearWay, which will allow importers/exporters, customs brokers, and other trusted third parties to collaborate in cross-organisational information exchange, backed by an immutable audit trail.

Partnerships

TradeLens is built on open standards to encourage standardisation across the sector. As part of the system’s early adopter programme 94 organisations have agreed to participate on the platform, an ecosystem that currently includes more than 20 port and terminal operators across the globe, as well as major container lines, customs authorities, beneficial cargo owners (BCOs), freight forwarders and logistics companies.

Maersk and IBM say they have worked with dozens of their ecosystem partners during a 12-month trial of the system to identify opportunities to prevent delays in the supply chain using blockchain technologies, with one example demonstrating how the platform could reduce the transit time of a shipment of packaging materials to a production line in the United States by 40 per cent.

TradeLens aims to improve the efficiency of global supply chains

Maersk is pushing ahead with its plans to be a leader in maritime blockchain with the official launch of its new venture with IBM, to be named TradeLens

Maersk is pushing ahead with its plans to be a leader in maritime blockchain with the official launch of its new venture with IBM, to be named TradeLens.
Oldendorff engages Sea IT for project rollout

Approximately 80 Oldendorff ships are included in the project

Naval Dome completes yacht cyber security installation

Israel-based cyber security firm Naval Dome has completed the installation of its maritime cyber defence system aboard the 46m yacht Lucky Me, with the implementation carried out during a scheduled visit by the yacht to Athens, Greece.

"Following assessment of the yacht’s operational profile, we tailored the Naval Dome system to meet the customer’s exact requirement," said Paola Rossi, vice-president, Naval Dome.

"Once the bespoke work was complete we installed the Naval Dome Endpoint and carried out a series of checks to ensure everything was working as it should. The yacht’s Captain acknowledged that his onboard systems were working as they were before the installation."

"We set out to find a secure and future-adaptable IT communications solution for our fleet. We are very pleased to have entered into this long-term agreement with Sea IT, who are true experts in their field and fully understand our IT requirements."

Sea IT has designed the system to be installed, and will manage all critical elements of the project including cyber security and endpoint security.

"We have worked closely with Oldendorff Carriers and set up their IT cyber security system rules to conform with their corporate rules for cyber security," said Kristian Ryberg, CEO at Sea IT.

"We are their technical partner making sure they meet their objectives and adhere to regulations now and in the future." The deal with Oldendorff was announced shortly after Sea IT confirmed that it has begun another implementation project with Alvank to deliver a range of technology systems to two new vessels that are being added to the Alvank fleet. The agreement covers a group of products included in Sea IT’s BlueCORE concept: BlueTV, BlueSAT, BlueSTAR, BlueBOX, BlueCONNECT and the phone service BlueSKY. The first installation has already been completed on the vessel Ramanda.

The package includes Ku-band VSAT services, a PBX and phone system, as well as online access to applications installed on the ships.

"We decided to implement BlueCORE since it makes our daily operations easier and more flexible," said Oluf Nilsson, Alvank.

"With BlueTV the crew can enjoy an IP-based infotainment system. It combines TV, video, general ship information and safety, items that are valuable in the marine industry."

The BlueCORE platform is built on an open architecture to facilitate M2M functionality and the integration of other third-party technologies into the system in the future.

"It is with great pleasure we continue to work with Alvank and take part in their journey to equip their fleet with the best possible solution based on their needs," said Mr Ryberg.

"We believe that Sea IT’s BlueCORE solution is a strategic decision for Alvank to minimise the operational costs and be able to work efficiently with reliable communication at any given time.”
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German shipping companies sign with NSSLGlobal

German shipping companies Hermann Lohmann Bereederungen and Vertom-Bojen have both signed new connectivity deals with maritime satcom provider NSSLGlobal, to extend the connectivity options available on board their vessels.

Hermann Lohmann Bereederungen (HLB) has agreed a deal to replace its legacy VSAT systems with NSSLGlobal’s fusionIP service, integrating both VSAT and 3G/4G cellular connectivity. Already an NSSLGlobal customer since 2016, HLB will now replace the onboard communications systems on all of its existing maritime vessels with the new service, based on Cobham’s SAILOR 600 antenna systems.

Within one single 60cm SAILOR dome, fusionIP integrates LTE and satellite broadband, allowing ships to automatically switch between 4G/3G and satellite networks using one antenna.

“We turned to NSSLGlobal to fully manage the communications aboard our fleet because we were convinced that NSSLGlobal’s solution/concept and service were right for our fleet,” said Hermann Lohmann, managing director of Hermann Lohmann Bereederungen.

“We opted for the renowned fusionIP service due to its compact hardware and flexible airtime concept.” The fact the product also combines satellite broadband with a 3G/4G system within the same device, to enable automatic transition between cellular and satellite broadband connections, allows us to stay fully connected to our shipping networks at all times. This was a key factor in our decision-making process.”

Vertom-Bojen meanwhile has agreed a separate deal with NSSLGlobal to roll out VSAT services across its own globally-trading fleet. Based in Nermoor, Germany, Vertom-Bojen operates mini bulkers, general cargo vessels and multi-purpose vessels.

Vertom, located in Rhoon near Rotterdam, provides in-house chartering for Vertom-Bojen, with 80 vessels in chartering.

In 2016, Vertom-Bojen rolled-out NSSLGlobal’s FleetBroadband and FusionIP system plans across its fleet, and has now decided to move to NSSLGlobal’s new VSAT IP@SEA package on its vessels that operate worldwide, under a multi-year contract.

The VSAT service combines Ku- and C-band coverage managed by a network of five global teleporters, supporting 20 satellite beams and three Network Operation Centres.

“We work in an increasingly competitive market,” said Henrik Christensen, CEO, NSSLGlobal Continental Europe.

“Companies such as Vertom-Bojen want to know that they will not only get excellent and attentive service, but also receive a cost-competitive deal with no surprises lurking in the contract details.”

News of these deals was announced as NSSLGlobal confirmed an expansion to its region and this contract win is testament to our continued growth and momentum in Europe.”

Navarino to offer Ku-band VSAT from SES

Navarino has announced a deal with SES Networks to add the satellite operator’s global Ku-band managed mobility service to its maritime satcom portfolio for the maritime market.

“Navarino has a wide customer base with live operations and stringent infrastructure requirements that demand reliable and consistent high-speed connections for their data services. This makes SES Networks – with its extensive satellite network and one of the most well-regarded contention ratios – an ideal partner for us,” said Konstantinos Katsoulis, Navarino commercial director.

“In recent years we’ve seen a step-change in the industry that has been driven by digital transformation, and by collaborating with SES Networks we’re uniquely positioned to enable high performing data connectivity at sea.”

“In recent years we’ve seen a step-change in the industry that has been driven by digital transformation, and by collaborating with SES Networks we’re uniquely positioned to enable high performing data connectivity at sea.”

“Through our collaboration we know that our customers will have the capacity, coverage, and performance they need to navigate this and any future changes successfully.”

The new agreement is in addition to the tie-up with Intelsat announced by Navarino in June, which added global Ka-band services on the Intelsat Flex platform to a satellite portfolio that already included a Ka-band VSAT option with Fleet Xpress.

Uniwise Offshore rolls out Nava broadband system

Offshore support vessel (OSV) operator Unwise Offshore Limited is to implement the Nava maritime broadband system from Thaicom across its entire fleet of approximately 30 vessels.

Unwise Offshore will close the system, which includes Ku-band VSAT with satellite coverage across Asia Pacific as well as an L-band backup, to drive operational improvements such as optimising its electronic document handling, wider availability of crew welfare services and enhanced fleet management support.

“The Thaicom Nava high-speed broadband connectivity solution will enable Unwise to boost operations and improve crew welfare across our entire fleet of more than 30 ships,” said Jon-Axel Hauglum, senior general manager, operations, Unwise Offshore.

“This will allow us to operate more efficiently and offer our crew a workplace which is always connected to high-speed internet. Thanks to the flexibility and scalability of the Nava broadband service, our operation can remain future-proof and competitive in the future.”

Cobham adds high power variant for FX system

Cobham SATCOM has introduced its new SAILOR 100 GX HP (High Power) Fleet Xpress, an updated version of its existing SAILOR 100 GX antenna system adapted for Inmarsat’s newly launched high data rate plans on Fleet Xpress.

The new 1 metre, 3-axis stabilised Ka-band user terminal delivers twice the RF power of the standard unit, and includes an integrated 10W GaN amplifier, which increases upload speeds and facilitates a more reliable link to the GX satellites.

The new SAILOR 100 GX HP

The SAILOR 100 GX HP system is also compatible with Cobham SATCOM’s GX Antenna Diversity Solution, used to manage operation of two Ka-band antennas from a single GX modem unit, with FleetBroadband integrated, on a single Fleet Xpress subscription.

Inmarsat type approval for the unit is currently pending, with the first shipments expected to follow in October 2018.

“The SAILOR 100 GX High Power system demonstrates the deep commitment we have to our partners and to enabling access to new, high value markets through close collaboration,” said Jens Everling, director, maritime broadband, Cobham SATCOM.

“More than that, however, it represents our focus towards ongoing development of the communications foundation that drives digitalisation and smart shipping. In this context, when it comes to connectivity every minute matters, and SAILOR 100 GX High Power allows users to maximise their investment in Fleet Xpress.”
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Speedcast buys Globecomm for $135m

Speedcast has announced that it has entered into a definitive agreement to acquire Globecomm Systems for an estimated net purchase consideration of US$135 million, which will see the company take on Globecomm’s maritime satellite communications business along with its operations in the enterprise and government market sectors.

“This acquisition of Globecomm is fully in line with our strategy to consolidate our industry and thus build competitive advantages based on scale and capabilities,” said Speedcast CEO Pierre-Jean Beylier.

“Globecomm has built a strong reputation, providing remote communications and professional services to key customers in the government sector, as well as in the maritime and enterprise segments.”

“I am excited to have the Globecomm team joining Speedcast. They will strengthen our innovation capabilities with new solutions and strong engineering experience, as well as enhancing our system integration propositions. We expect to drive significant cost and revenue synergies potential from this acquisition, given the strong financial and operational benefits of scale across core verticals.”

The acquisition, from affiliates of HPS Investment Partners, Tennenbaum Capital Partners and certain other members of Globecomm, is estimated to generate over US$15 million in annual cost synergies within 18 months of the acquisition, Speedcast said, in areas like footprint rationalisation, network improvements and improved procurement.

The transaction is expected to close in Q4 2018, subject to the completion of customary closing conditions.

ITC Global signs TUI Cruises connectivity contract

Panasonic Avionics Corporation, via its ITC Global subsidiary, has announced that it has been awarded a four-year contract by TUI Cruises for connectivity services on board two newbuild cruise ships, Mein Schiff 1 and the new Mein Schiff 2.

Germany-based TUI Cruises is a joint venture between TUI AG and Royal Caribbean Cruises. Headquartered in Hamburg, TUI Cruises’ ships sail across the globe from the Baltic and Mediterranean Seas in Europe; to the Canaries Islands; to the Caribbean in the Americas; to greater Asia, with various channels in between.

The new VSAT service will use 2.4-metre multi-band antenna systems to connect to Panasonic’s global Ku-band-based satellite network, with the deal marking the first cruise connectivity contract for Panasonic and ITC Global.

Installation and commissioning for the first of the sister ships, Mein Schiff 1, was finalised in March and the vessel successfully completed its maiden voyage in May. Mein Schiff 2 is currently under construction at Meyer Turku shipyard in Finland and is set to join the TUI Cruises fleet in March 2019.

“TUI Cruises is recognised as one of the most successful cruise brands, known for its premium, all-inclusive concept,” said Ian Dawkins, CEO at ITC Global and senior vice president, global network operations at Panasonic Avionics Corporation.

“With this contract award, Panasonic and ITC Global have a unique opportunity to further elevate the brand in consumer markets through maximising the user connectivity experience, most notably for TUI Cruises’ guests – whether that’s through making it possible for professionals to manage work responsibilities while spending time away with family, or by enabling social media enthusiasts to share vacation highlights in real-time with friends and family back home.”

“Our job is to manage all aspects of the communications solution so that TUI Cruises is focused on what they do best – creating a memorable guest experience onboard. We take this responsibility seriously and look forward to continuing to work closely with the customer in delivering the advanced technologies required to make this possible.”

GTMaritime adds smaller vessel e-mail service

GTMaritime has launched a new e-mail system for smaller vessels called SeaMail, targeting operators of barges, fishing vessels, inland cruisers and leisure craft.

The system has been designed and optimised for use over any satellite service, dealing with high latency circuits and management of multiple connections, as well as allowing data transfers to resume from the point of interruption if there is a break in communications.

SeaMail is compatible with tablets and mobile devices, allowing crew to access e-mails as required.

“Smaller vessels such as barges, fishing and leisure vessels don’t have the capacity or budget to be able to operate larger, managed and comprehensive e-mail solutions,” said Robert Kenworthy, CEO at GTMaritime.

“We’ve used our 20-plus years of experience in the maritime industry to develop a product which suits their needs and requirements, ultimately allowing them to manage their costs and save money.”

“Airtime providers can now deliver an even better level of support and service to their small vessel customer by offering a simple, managed e-mail solution with their airtime. This gives users just one place to call for all their satellite communication needs and supplies the airtime provider with the latest tools to support them.”

Singtel and KVH have announced a partnership which will see Singtel provide its maritime customers with KVH’s product and service offerings, including KVH’s subscription-based AgilityPlans connectivity package.

The AST Group reports that it has recently opened a range of new offices across the globe, in Sydney, Rotterdam, Ecuador and the UK. The opening of these new locations will provide strategic bases for expansion in the maritime and land sectors in these regions and increase AST’s geographic reach.

Iridium has announced three further additions to the list of resellers for its forthcoming Certus L-band satellite service, with KDDI Corporation, Navarino and NSSLGloba the latest companies to add Certus to their existing portfolios.

Dubai-based maritime satellite communications provider IEC Telecom reports that it has agreed a strategic alliance with Scanmarine to distribute its services in Denmark, which include connectivity packages on the Iridium, Inmarsat, Telenor Satellite and Thuraya networks.

NSSLGloba has appointed Dr Andrew Staney as group chief technology officer (CTO). Dr Staney has previously worked at organisations such as Satellite Information Systems (SIS), Ultra-Electronics, GiantSat and Vislink.

Milano Teleport live on Newtec platform

Newtec reports that it has completed the delivery of its Newtec Dialog platform to telecommunications provider Milano Teleport, to power its satellite services for the maritime market.

Milano Teleport will use two types of Newtec modems depending on the throughput required – the MDM35xx and the MDM5000 Satellite Modem series – within the hub located at its teleport in Italy.

“As a globally recognised telecommunications and internet provider, remaining customer-centric and meeting the specific needs of each market we operate in is at the top of our agenda,” said Luca Massaro, chief technology officer at Milano Teleport.

“We chose Newtec Dialog due to the capabilities it brings to our maritime portfolio such as very high data rates and increased efficiency which enables us to serve our most demanding customers very cost-effectively.”

“Thanks to Newtec’s modems and its Ms-DMA bandwidth allocation technology, we can deliver improved bandwidth utilisation with the highest level of efficiency to ensure our customers continuously enjoy on-board connectivity at all times.”

KNS and North Telecom ink partnership

Dubai-based satellite services provider North Telecom has entered into a partnership agreement with Korean antenna manufacturer KNS to provide additional services to its customers.

“One of the biggest trends in the business, now and in the future, will be forming alliances,” said Kevin Jin, CEO of KNS.

“We just hoisted the sails, but we are convinced that our course of endeavour is always aiming for enhanced customer satisfaction in our target market, and mutual benefit between our two parties and customers will be achieved.”

North Telecom’s strategic focus on the sector has already been evidenced by the company’s 2017 acquisition of Scoptel, a Malaysia-based telecommunications firm operating in the oil & gas and maritime markets.

“The future of the satellite market lies in building strong partnerships and alliances. Such a progressive move will enable us to increase our footprint in the oil & gas and maritime telecommunication sector,” said Hadi Nazari Mehrabi, North Telecom CEO.

“Our primary focus is to venture into the market along with KNS to provide cost effective and high quality services to our customers.”
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Maritime satcom antennas can’t be ‘microwave weapons’ – Intellian

Intellian has rubbished mainstream media reports that shipboard antennas could be used by hackers to ‘cook’ people on board, as it moves forward with the launch of a new range of sub-metre convertible VSAT systems.

Maritime satellite antenna manufacturer Intellian has refuted media reports that cyber vulnerabilities in shipboard antennas could allow the systems to be hacked and used as a ‘microwave-based weapon’, telling Digital Ship that there is “no practical way” of successfully carrying out such an attack.

The weaponised antenna reports stemmed from coverage of a presentation made by Ruben Santamarta, principal security consultant at information security firm IOActive, at the Black Hat USA 2018 conference, one of the world’s largest annual ‘hacker’ conventions.

Mr Santamarta’s presentation, based around his ‘Last Call for SATCOM Security’ whitepaper, included a section on hacking maritime satellite antennas, where the researcher claimed to have found a way to compromise an Intellian antenna by using a copy of the firmware downloaded from the internet that included hardcoded access credentials.

The paper also describes vulnerabilities in the ACU (Antenna Control Unit) which, once compromised, could allow the attacker to take “full control of the antenna.”

Mr Santamarta’s whitepaper goes on to discuss the potential for “cyber-physical attacks”, where a compromised antenna could be set to transmit radio frequency waves directly at a chosen target as “an intentional radiator” – a claim which has been reported in various quarters as creating a weapon that could ‘microwave’ people nearby.

In response to a request for comment from Digital Ship, Intellian noted a number of specific issues which it said made such an attack impractical in the case of a properly installed antenna currently operating on a ship at sea.

“The report mentioned a number of vulnerabilities based on a TVRO antenna with old firmware. The firmware was updated 18 months ago and many of the findings would not be possible with a current model of antenna. Intellian always encourage customers to upgrade to the latest version of firmware,” the statement said.

“Some of the media-published statements, especially in the UK tabloid press, have misquoted the author’s findings – there is no practical way that a VSAT system can microwave cook someone from the inside out. There are many safeguards, beyond just the antenna, to ensure that this would never occur.”

“The BUC (microwave transmitter) inside a VSAT terminal is designed in such a way that it loses connection with the satellite it stops transmitting. Also, the power output from modern VSAT terminals used at sea is low-powered and so the safe distance is generally inside the radome.”

“Some of the photographs published by the media actually show a Sat TV antenna and report that this could be used to track aircraft, or microwave people. Both impossible. The most dangerous thing with a TVRO antenna is if you dropped it on your foot it may hurt!”

Intellian noted that properly installing antennas is secure.

“Intellian will also encourage network providers and Service Providers to ensure that they change default user IDs as recommended in the installation documentation and product training. Intellian have contacted the operators of unprotected networks and assisted them in closing access to these terminals.”

IOActive’s VP sales, strategy and strategic services, John Sheedy, also added his own comment with the Intellian statement, noting that his company “look forward to collaborating with Intellian to address the risks Ruben Santamarta discovered in his research. Based on our early discussions, we are confident the collaboration will successfully produce a more secure solution moving forward.”

“We appreciate it’s difficult to explain complex, technical matters in a way that is understandable to a general audience. While the cyber-physical attacks Ruben described use similar principles to microwaves, none of the systems we assessed can ‘cook a person from the inside out’.”

New antennas

Moving away from terminal threats, Intellian has been busy expanding its satcom antenna range with the recent launch of its first sub-metre Ku to Ka-band convertible maritime VSAT antenna, with the new 85cm v85NX system able to switch between bands through a change of RF BUC option.

The v85NX supports current GEO constellations and has been designed to be compatible with future networks, such as new, proposed LEO and MEO constellations, the company says.

Intellian says that its RF design has also substantially increased gain compared to existing 80cm class systems operating in the Ku-band, and has several different BUC power options available, up to 25W, that provide a wider operational range than many other sub-2m class antennas.

The system uses a modular component design to minimise the number of potential spares needed, with 13 common spare parts now adequate to fix most potential problems. The v85NX combines Tx, Rx and DC power into one coaxial cable, and the new radome design has a single external cable connection, combined with dynamic motor braking, so the radome no longer has to be removed during installation.

Intellian will also introduce a new Global Xpress terminal to its ‘1m and above’ range, adding the 1-metre GX100HP system, which has been designed with a higher power 10W GaN BUC option.

The increase in BUC power allows a higher level of bandwidth, with upload speeds of 3 Mbps and over 10 Mbps download now possible on Inmarsat’s Fleet Xpress service. The GX100HP can also be used in a dual antenna configuration using the recently launched Intellian GX Mediator to mitigate blockage from any vessel obstructions.

Intellian provides two conversion kits for its existing systems, the Ku to Ka GX HP Conversion Kit and the 10W HP Upgrade Kit. The Ku to Ka GX HP Conversion Kit can be used to convert an existing v100 to a GX100HP. The necessary 10W BUC Assembly, Ka feeder, and GX BDU are included.

The 10W HP Upgrade Kit can be used on an existing GX100 to swap out its BUC. The pre-assembled kit has everything necessary to easily convert a 5W BUC to a 10W BUC using four screws.

Alongside its new antennas Intellian has also upgraded its antenna management and control platform, AptusNX, which can be operated by plugging a laptop into the ACU without any need to download extra software.

The software includes an installation wizard with a step-by-step commissioning guide to complete setup, and provides enhanced diagnostic capabilities which can send an alert to the operator when predictive maintenance is required.

Digital Ship October 2018 page 8
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Hapag-Lloyd Cruises has signed an expanded VSAT connectivity agreement with maritime satcom provider Marlink, which has itself been busy expanding the capabilities of its onboard communications management systems.
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The state of play in maritime satcom

While satcom revenues continue to rise, the potential entry into the satellite sector of a range of new players is likely to have a significant impact on the market for vessel connectivity in the near future, writes Brad Grady, NSR.

SpaceX, OneWeb, mPower, GEO vs. MEO vs. LEO, Ku- vs. Ka-band – if you’ve been, ‘in the market’ for any satellite connectivity service over the past few months you have, no doubt, run across at least a few of these terms, or players.

It’s a tremendous, and tumultuous, period for the satellite sector right now, with new satellites bringing new capacity, new antenna form factors hoping to open up new markets, and business models changing the relationships between different parts of the value chain. With over $2.2 Billion in retail revenues over the next ten years, players across the value-chain are looking to see how they can get a (bigger) piece of this pie.

As the maritime industry faces its own set of challenges – vessel oversupply, uncertain global economic trade, changing fuel prices, etc. – the satellite sector is facing an identity crisis.

Changing media consumption habits on shore are causing a steady shift away from the cash-cow of video services, towards lower margin data services businesses. More satellite capacity is getting launched each year, but not all of this capacity will be turned on for space. More capacity is being absorbed by the satellite operators looking at how they can continue to sustain revenue growth.

In just the next few years, by 2020, the amount of satellite capacity available in space will nearly double to almost 5.7 Tbps. By 2027, that figure is expected to be 37 Tbps. A lot of this capacity will come from Lower Earth Orbit (LEO), where Iridium currently operates, requiring significant changes to the onboard infrastructure.

Antennas capable of quickly tracking and switching amongst upwards of thousands of satellites are still yet to be fully developed, much less at price-points that are appealing to end-users. Even more uncertain are the business models which will create sustainable revenue streams to support the operation of these new constellations.

While not all of this capacity will be applicable or available to the maritime industry, these new satellite designs in both LEO and geo-stationary orbit (GEO) are changing how satellite networks are built and operated. This is redefining the industry, these new satellite designs in both LEO and GEO are building on many of the core principles of earlier generations of satellite systems, while also adding new capabilities.

One of the most significant changes is the ability to deliver lower margin data services. As demand for communication grows, and between different orbits is shaping up to be at its hottest in this sector. With O3B’s MEO connectivity option a proven entity, the next wave of LEOs is aiming to significantly increase the throughput available to passengers on tomorrow’s cruise ships.

Not to be standing still, ‘traditional’ GEO options using newer satellites with higher throughput are setting benchmarks. The 3.2 Gbps benchmark to a Carnival ship was set using a GEO satellite. All told, commercial passenger markets will demand 390 Gbps of satellite connectivity by 2027, or almost 8 out of every 10 Gbps of demand in the maritime satcom sector.

Why all this demand? Take a look at any family on holiday, and ‘disconnected’ isn’t part of the equation. From posting to social media, to video-streaming, to checking e-mails, multiple devices per family is a fact of life.

Layer that on top of the typical number of guests per ship, and you have demand levels that are stretching the capabilities of satellite connectivity. The upside of all of this demand? Capacity prices continue to fall, enabling cruise operators to take advantage of the bandwidth explosion. While still spending more and more each year on connectivity, the levels of connectivity per ship are increasing exponentially.

A lot of this capacity is being absorbed by platform operators, offering a range of value-added services and satellite operators, but just as with other areas of the maritime satcom market, looking for other sources of revenues to allow more offshore resources to compete at the lower crude oil prices expected over the next ten years.

However, demand from increasing data gathering across these operations is only going to go so far.

Cost pressures continue to be felt across the value-chain, reaching into the satellite service provider layer. Cheaper capacity will help balance the internal margins of service providers, but just as with other areas of the maritime satcom markets, looking for other sources of revenues will be key to maintaining growth.

Cyber security, crew welfare, managing M2M data, and systems integration are only a few of the emerging value-added
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services from service providers. Alongside their traditional role of creating highly redundant, robust connectivity networks for this sector where a few minutes of connectivity downtime can result in significant amounts of lost revenue for end-users, the value-added services are increasingly what will distinguish service providers.

Fishing is a challenging and unpredictable market, the satellite communications sector has yet to truly create a winning combination of price/connectivity to crack open the fishing market. As the current market is largely focused on either the very high-end commercial vessels, or the lowest end vessels subject to regulatory reporting and monitoring requirements, the satcom sector has not developed a successful migration path. With some 6,500 new broadband vessels expected over the next ten years, and an impressive 97 per cent of vessels now adopting broadband connectivity, there is a clear market opportunity.

Flat panel antennas and lower cost of capacity are key ingredients along that path, and developing a compelling set of services and applications to meet the need of the fishing industry will be an area that service providers must invest in. However, narrowband connectivity will remain the largest driver of satellite connectivity revenues in the fishing sector.

As the world continues to focus on sustainable fishing practices, catch monitoring, vessel positions, and other regulatory requirements will continue to expand the lower end of the market for satellite communications, with the hope that these vessels, once connected, can be up-sold to higher levels of connectivity.

Overall, until the cost of equipment for broadband connectivity falls significantly, the majority of the fishing market will remain out of reach for service providers looking to enable broadband connectivity.

Leisure: Tied directly to disposable income and other macro-economic factors, the outlook for the leisure satcom sector is improving. With only 12 per cent of vessels adopting broadband connectivity by 2027, generating $275M revenues, it will remain a significant segment of the overall market – but at a time where highly diversified service providers are winning out it is one of the latest markets to see consolidation. With a demanding customer base, highly seasonal demand patterns, and the ever-increasing requirements for connectivity in the market, service providers need access to a large amount of capacity in a few specific regions at a few specific times.

Combine that with a complex onboard network that is customised per vessel and you have a mix of requirements that necessitates a significantly high amount of customer-service focus to be successful in the market.

More than just building the satellite side of the connectivity puzzle, new flat panel antennas are looking to target this segment first. Hoping to appeal to the design requirements of the leisure yachting sector, look to this market to be the first adopters of antennas from the likes of Kymeta or Phasor. Overall, at $114M in cumulative equipment revenues over the next ten years, there remains a sizeable opportunity for new technologies to enter and be adopted in the market.

Bottom Line
Now is a transformational period in maritime satcom connectivity, as more capacity comes online, business models continue to evolve, and digitalisation across the entire maritime industry accelerates. More capacity and new antennas will drive new growth opportunities and open new revenue streams for the satellite communications sector in terms of customers and applications.

Splethoff rolls out AST VSAT on 80 vessels

www.theastgroup.com

Dutch shipping company Splethoff has signed a deal with AST Marine Networks, a division of The AST Group (AST), to supply global VSAT and L-band satellite communications to approximately 80 vessels across its multiple fleets.

Working with network partner (and Panasonic subsidiary) ITC Global, AST will provide Splethoff with Ku-band VSAT connectivity on the Panasonic network, as well as failover L-band services and required hardware.

“Changes in the airtime market forced us to look for a new solution quicker than anticipated. AST proved to be a professional provider, willing to go the extra mile and adapting to our requirements,” said Peter Van de Venne, Splethoff’s director of IT.

“The migration went very smoothly (with about 80 ships in nearly two weeks). After migration, the support organisation indeed proved proactive and thorough. When visiting AST, it was a pleasure seeing that support tickets were not evaluated on the speed of closing, but on the actual evaluation feedback from the end customer.”

“We look forward to working with AST towards a next generation internet connectivity on board in which we address challenges like improved cyber security, multiple supplier remote access, broadening sensor data requirements and video applications.”

Chinese dredging vessels to roll out VSAT

www.cobham.com

A fleet of 16 dredging vessels owned and operated by CCCD Dredging Company (CDC), to be deployed in support of China’s port and infrastructure-building One Belt One Road Initiative, are to be fitted with Cobham SATCOM maritime antenna systems as part of a VSAT implementation project.

The 16 SAILOR 900 VSAT antenna systems, to be supplied via local partner Beijing Highlander Digital Technology, are due to be rolled out on the ships over a period of 24 months, with an additional option for a further six vessels included in the deal.

The new equipment will replace the vessels’ existing FleetBroadband hardware, and will be used to gather and remotely analyse data from vessel operational systems and drilling equipment that can be applied to improving predictive maintenance, decision-making and project execution.

“The dredging sector has been cautious in embracing digitalisation, but the enhanced onboard communications delivered to CDC by the SAILOR 900 VSAT paves the way for real-time monitoring, higher precision modelling and potential for extended remote operations,” said Cobham SATCOM general manager China, Cheng-Yu Tang.

“Reliable connectivity is essential for these developments and for the sector to transition into the digital era in a manner that is environmentally friendly and operationally effective.”

North P&I Club gets cyber accreditation

www.nepia.com

North P&I Club has been awarded the UK government-backed Cyber Essentials Plus accreditation, awarded to companies who have successfully implemented systems to protect themselves against common cyber threats.

Cyber Essentials Plus includes an internal scans and on-site assessment programme, and requires companies to implement five key controls: boundary firewalls and internet gateways, secure configuration, access control, malware protection and patch management.

“The Cyber Essentials Plus accreditation reflects our ongoing commitment to cyber security, and provides our shipowner members with peace of mind that we take the protection of IT and data facilities seriously,” said James Holmes, North P&I Club’s chief information officer.

“North is actively promoting awareness and discussion of the importance of cyber security with both staff and our shipowner members – we are doing this through our messaging and cyber security loss prevention initiatives and insights, which have been rolled out both in the UK and overseas.”

About the author
Brad Grady is a senior analyst at Northern Sky Research, a market research & consulting firm focused on the space sector. Mr Grady is the author of NSR’s Maritime SATCOM Markets, 6th Edition report on the maritime satellite communications sector, which tracks the major trends, drivers, and restraints present in the market.

The VSAT antennas will be implemented on the ships over the next 24 months

James Holmes, CIO, North P&I

Digital Ship October 2018 page 14
Service providers wanting to optimize maritime communications and delight customers leverage the performance and flexibility of the Comtech brand. Our range of best-in-class infrastructure solutions include VSAT networking platforms, satellite modems, network & bandwidth management, frequency converters and amplifiers. The solutions blend unparalleled horsepower, efficiency and intelligence, providing the advanced technologies you need to increase profitability, differentiate services and improve quality of experience.

Contact us today. We are ready to evaluate how our unique feature set can provide you with the industry’s highest user throughput, highest availability, and most optimal resource utilization.
Intelligent cargo handling introduced by MacGregor

MacGregor, part of Cargotec, is set to launch a new intelligent prediction service for equipment on merchant vessels, which it says can predict and monitor upcoming critical issues and communicate them to users to reduce unplanned downtime.

The OnWatch Scout service builds on the company’s experience in remote-equipment access with offshore cranes, and also includes access to MacGregor OnWatch experts, who can connect to the equipment and help resolve ongoing issues.

Alongside the new service MacGregor is also introducing its latest voyage and port optimiser, a platform for pure car truck carrier (PCTC) operators to analyse port calls and identify potential efficiency improvements, as well as a self-learning autonomous cargo handling system that is currently in use on MacGregor bulk handling cranes developed with ESL Shipping Oy, part of Aspo Plc.

“We are confident that our customers should be able to capitalise on the widespread benefits that intelligent cargo handling can deliver,” said Marcus Ejersten, strategic marketing, MacGregor.

“Our commitment to shape the maritime industry, drive its transformation and pioneer intelligent cargo handling means that, alongside our traditional equipment portfolio and worldwide service support, we are continually investing in the growth of new digital services.”

“Our solutions can predict, safeguard, optimise and automate assets and operational performance, and therefore earning potential. We can reduce inefficiencies and maximise capacity utilisation, which has a positive impact on the environment and, through automation, improve safety and efficiency even further.”

On the application side, MacGregor has also recently launched a new Cloud-based breakbulk cargo stowage application which aims to increase vessel utilisation rates by optimising the stowage of different cargoes using real-time data.

The Breakbulk Optimiser takes into consideration all influencing factors including what cargo is already on board, incoming cargoes, available cargo space, the actual capability of the cargo handling system, port rotations and vessel stability.

Currently, breakbulk stowage planning mostly relies on manual planning processes based on the capability and experience of an individual planner or team of planners. No-shows of cargoes and last-minute changes can further add to the time it takes to complete an optimal stowage plan.

“The new solution can easily accommodate these last-minute changes and enables customers to identify predefined key performance indicators at a ship, voyage, rotation or fleet level,” said Tommi Keskielho, director, customer innovations, cargo handling, MacGregor.

“Pilot cases on board customer vessels have verified that the amount of cargo that can be carried can be increased substantially, which increases operational efficiency and earning potential. Also there are a lot of potential process improvements.”

“Time-savings in planning processes and the transparency of fact-based information are just a few of these. Reduced environmental impact is another as vessels are running at much higher utilisation rates.”

NORDEN to implement SEDNA for team comms

NORDEN is part of a growing wave of companies who’ve realised this, and are taking action.

Danish dry cargo and product tanker operator NORDEN reports that it is to use the SEDNA software package as its new communication platform for transaction management and team collaboration, replacing e-mail as the default mode of communication for the company’s teams.

NORDEN operates an owned and chartered fleet of approximately 300 dry cargo and tanker vessels, and will use the SEDNA transaction management system, specifically designed for the shipping sector, to better organise its communications traffic through the introduction of instant search functionalities, programmability and automated tagging.

“Switching to SEDNA gives us the chance to re-examine our workflows and potentially save hours every day in team collaboration,” said Sture Freudenreich, head of IT at NORDEN.

“The system is in line with our ‘Focus & Simplicity’ strategy, that will help us unlock valuable resources to develop and grow our business. The SEDNA team’s responsiveness and ability to help prepare our users has been invaluable in planning a smooth rollout, which (began at the) end of August.”

SEDNA will be used by teams across NORDEN’s dry operator, dry owner, and tankers business units, as well as by support functions such as fuel efficiency, technical, and IT. The system has already been used by a range of different companies in the maritime sector to transfer over 100 million messages to date.

“So often when we’re looking for efficiencies in the maritime space we focus on shipboard efficiencies,” said Bill Dobie, CEO of SEDNA.

“This ignores inefficiencies hiding in plain sight in the offices of ship owners, brokers, charterers, and traders, where there are potentially hours of time – and consequently millions of dollars – being spent on tasks that only exist because the software we’re using is not fit for purpose. However, NORDEN is part of a growing wave of companies who’ve realised this, and are taking action.”

Electronic logbook adds monthly package

Dubai-based Zaitoun Green Shipping (ZGS) is to lead a consortium aiming to create a new generation of container ship with maximised levels of efficiency in areas such as operations, cargo management, and energy usage.

The other six companies making up the consortium include Wärtsilä, MacGregor, Finland Oy (MCC), Carina Solutions (C4), Wintertur Gas & Diesel (WinGD), Mitsubishi Heavy Industries Marine Machinery & Equipment (MHI-MME), and Gazztransport & Technigaz (GTT).

“The crucial part here is that SEDNA will be used by teams across NORDEN’s dry operator, dry owner, and tankers business units, as well as by support functions such as fuel efficiency, technical, and IT. The system has already been used by a range of different companies in the maritime sector to transfer over 100 million messages to date.”

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Consortium aims to build next-gen container ship

Dubai-based Zaitoun Green Shipping (ZGS) is to lead a consortium aiming to create a new generation of container ship with maximised levels of efficiency in areas such as operations, cargo management, and energy usage.

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“There is a pressing need to address inefficiencies and to improve business practices in the shipping industry,” said Stein Thorsager, sales director for merchant & gas carriers at Wärtsilä Marine Solutions.

“A major challenge is that the suboptimal choice and utilisation of onboard systems is hindering performance and hence, therefore, also profitability. This is an area we shall be focusing on.”

The parties have agreed to establish a consortium team where each member company will contribute to the development and construction of a state-of-the-art container ship that is best in class in each of their areas of expertise.

Toivonen, MacGregor

Representatives of the seven consortium companies (l-r) Emmanuel Rousseau, GTT; Koichi Matsuzaka, MHI-MME; Kusakabe Azuma, MHI-MME; Ibrahim Belhaj, WinGD; Tommi Keskielho, MacGregor; Stein Thorsager, Wärtsilä: Reetta Kaila, Wärtsilä; Mohamed Zaitoun, Zaitoun Green Shipping; An Viitanen, C4; Rudolf Wettstein, WinGD; Arto Toivonen, MacGregor

Digital Ship October 2018 page 16
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MSI Ship Management completes MESPAS implementation

Singapore-based MSI Ship Management has completed the roll-out of the MESPAS Technical Ship Management software package across its fleet of 44 ships, the companies report.

"Crews prefer a simple and easy-to-use software for their daily work," said Captain Sanjay Ramnathan, managing director of MSI Ship Management.

"This is unlike their private life when they enjoy exploring complicated mobile applications for amusement, a profession- al software needs to be understood imme diately to grant the crews’ awareness. This was a major factor during the evaluation of a new system. MESPAS fulfills this requirement."

"Our key aim is to bring value to our clients by enabling their assets to run safely, efficiently and profitably."

MSI’s enthusiasm for the project helped the companies to complete the entire software implementation project in three months, with all machinery data (including spare parts) added to the system in just 12 months for the go-live on the entire fleet of 44 ships within that time frame.

MESPAS says it is now working on improvements to its safety module together with MEL, to add new functionalities for vetting, SIRE, TMSA and IMO DCS.

"Gaining a customer like MSI clearly indicates that we are on the right way with steadily improving our software’s mod ules and features, and shows that our new local presence due to the recent opening of a subsidiary in Singapore is desired and appreciated by existing and potential customers," said Dominik Seiler, MESPAS’ head of sales and marketing.

Zurich-based MESPAS has recently added to its application portfolio with the launch of a new web-based trading platform to link vessel operators and the current suppliers, to increase efficiency in their procurement processes.

The MESPAS Connect platform offers functionality to shipping companies for supplier sourcing, ratings and global search, and can be integrated into any purchasing software using a standard interface. Offer requests and orders can be transferred to a selected supplier directly without the need for manual action.

Suppliers can use the software to submit offers and receive orders, and can leverage integrated management tools for performance analysis or assigning cases to account managers. The platform also offers APIs to integrate with the suppliers’ in-house software.

All parties work from the same structured data set of 60,000 machinery types and millions of spare parts.

MESPAS says that it is expecting a procurement volume of more than US$1 million on the platform immediately upon release, with a projected total volume of US$465 million annually. This initial volume is expected to be generated by existing customers of MESPAS’ Technical Ship Management software.

By the end of 2018 the company says that it will launch a fully electronic invoicing module for MESPAS Connect, to remove the need to have paper invoices. The electronic invoices will be generated by the supplier at the click of a button, appearing immediately on the ship manager’s screen.

MESPAS Connect is a replacement for the MESPAS Supplier Business website previously operated by the application provider.

Marlink announces tech start-up partnerships

Maritime satcom provider Marlink has announced two new partnerships with We4Sea and Transmetrics, to expand its portfolio of digital services for shipping clients and assist them in improving fuel efficiency and reducing operating costs.

The strategic agreement with We4Sea will see the Dutch start-up leverage Marlink’s network to further develop its fuel efficiency systems, as part of Marlink’s Smart Connectivity strategy backing partners that can deliver new applications to support customers’ digitalisation efforts.

We4Sea specialises in digital monitoring systems to reduce fuel consumption and related emissions, using Digital Twin technology. The company’s applications combine position, speed, weather and cargo data within a web platform detailing actual fuel consumption and CO2 emissions.

The Digital Twin technology does not need additional hardware to be installed, and the online reporting is already certified to comply with new EU emissions reporting legislation, We4Sea says.

“We see a clear demand from our customers to deliver fuel efficiency solutions,” said Tore-Morten Olsen, president maritime, Marlink.

“This agreement with We4Sea will allow us to offer a highly intelligent and cost-efficient solution based on Big Data technologies, which will support our customers’ ambition for greener, more environmentally-friendly shipping.”

Marlink’s strategic business partnership with Transmetrics, a start-up headquartered in Flensburg, Germany, provides a story-telling environment for container vessels, a web-based platform that customers can use to explore data. This includes current and historical data. This includes current and historical data. The cloud-based platform allows shippers to interact with the data using a visual interface to enable shore-based monitoring of the current loading condition of the vessel, and a Dangerous Goods (DG) Check has been added to enable users to check proper stowage and segregation of dangerous goods against the vessel profile and DOC database, in combination with the MACS3 dangerous goods segregation engine.

Humrick announces new cloud migration platform

TMSI Europe has launched an online platform to enable users to perform migration to Microsoft’s new Azure cloud platform. The platform also provides additional support and training to facilitate the cloud migration for users.

The Migration Wizard platform is designed to assist users in the cloud migration process, providing guidance on the selection of the appropriate cloud migration strategy, as well as providing templates and tools to facilitate the migration process.

The cloud migration platform also includes a support team to assist users with any issues that may arise during the migration process. This team provides technical support, as well as training and guidance to help users make the most of the new Azure cloud platform.

The Migration Wizard platform includes a wizard that guides users through the migration process, providing step-by-step instructions and guidance. The wizard also includes a list of best practices and recommendations to help users make the most of the Azure cloud platform.

The Migration Wizard platform also includes a dashboard that provides users with real-time feedback on the progress of the migration, as well as a comparison tool that allows users to compare the performance of their current infrastructure with the Azure cloud platform.

The Migration Wizard platform includes a cost calculator that allows users to estimate the cost of migrating to the Azure cloud platform, as well as a resource optimizer that helps users to optimize their resource usage.

The Migration Wizard platform includes a library of resources that includes guides, articles, and videos to help users make the most of the Azure cloud platform.

The Migration Wizard platform also includes a community forum where users can share their experiences and ask questions of other users and experts.

The Migration Wizard platform includes a customer support team that is available to assist users with any questions or issues they may have.

The Migration Wizard platform includes a security and compliance team that is responsible for ensuring that the migration process complies with all relevant security and compliance regulations.

The Migration Wizard platform includes a team of data migration experts that are responsible for ensuring that the data is migrated accurately and effectively.

The Migration Wizard platform includes a team of application migration experts that are responsible for ensuring that the applications are migrated accurately and effectively.

The Migration Wizard platform includes a team of infrastructure migration experts that are responsible for ensuring that the infrastructure is migrated accurately and effectively.

The Migration Wizard platform includes a team of network migration experts that are responsible for ensuring that the network is migrated accurately and effectively.

The Migration Wizard platform includes a team of database migration experts that are responsible for ensuring that the database is migrated accurately and effectively.

The Migration Wizard platform includes a team of system migration experts that are responsible for ensuring that the system is migrated accurately and effectively.

The Migration Wizard platform includes a team of monitoring and performance experts that are responsible for ensuring that the performance of the Azure cloud platform is monitored and optimized.

The Migration Wizard platform includes a team of scalability experts that are responsible for ensuring that the Azure cloud platform is scalable and can handle the increased load.

The Migration Wizard platform includes a team of performance experts that are responsible for ensuring that the Azure cloud platform is performant and can handle the increased load.

The Migration Wizard platform includes a team of capacity planning experts that are responsible for ensuring that the Azure cloud platform is capable of handling the increased load.

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The Migration Wizard platform includes a team of capacity forecasting experts that are responsible for ensuring that the Azure cloud platform is capable of handling the increased load.

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Dubai launches ‘virtual maritime cluster’

Dubai has launched a new online portal to provide integrated digital access to a range of maritime services, with the Dubai Maritime Virtual Cluster (DMVC) aiming to provide an interactive platform for knowledge-sharing and research to further promote local growth within the sector.

DMVC forms part of Dubai’s ongoing effort to modernise into a competitive, inclusive, and attractive area for maritime investments, to support the UAE’s post-oil strategies to become a diversified and sustainable economy based on knowledge and innovation.

“The launch of the Dubai Maritime Virtual Cluster comes in a very important stage, particularly as Dubai takes its first steps towards international leadership after being ranked as fifth among the world’s most competitive and attractive maritime centres,” said H.E. Sultan Ahmed Bin Sulayem, chairman of the Ports, Customs & Free Zone Corporation in Dubai and chairman of Dubai Maritime City Authority (DMCA).

“The new initiative stems from its much anticipated role in enhancing the capability of the maritime sector for attracting foreign investments by providing a smart and integrated platform for the world’s maritime best practices, as well as facilitating the accessibility of maritime leaders to the best services available in Dubai.”

“This will ultimately serve the goals of the emirate’s ‘Dubai Plan 2021’, positioning it as one of the most important global hubs for business and investments.”

Shore Monitoring updated by DNV GL

DNV GL reports that it is launching a new Shore Monitoring module for its Navigator Port port clearance software, currently used by approximately 2,500 vessels.

The Shore Monitoring module is a Cloud-based system designed to monitor work and rest compliance in line with relevant regulations, and includes ship-shore synchronisation of certificates and vessel master data management. Onshore users can also access fleetwide analytics and visualisations of work and rest data as required.

“At DNV GL – Digital Solutions our development teams are extremely focused on user experience. Our next generation fleet management solutions are being developed in close cooperation with domain experts and key customers,” said Elling Rishoff, head of software ecosystems, DNV GL – Digital Solutions.

Pilot customers for the system have included Seatrans and Odjfell, who have collaborated in the development of the technology through feedback on its use in actual operations.

“At Seattrans we offer high quality ship management,” said Erik W. Mohn, head of crewing and HR from Seatrans Ship Management.

“We need to use the most innovative tools available. We appreciate the opportunity to take part in the development process of Navigator Port’s new Shore Monitoring module and are looking forward to fully implementing it.”

Tero Marine integrates e-purchasing system

Maritime e-procurement company Kinnetik Solutions has announced a new agreement with Tero Marine to integrate its Cloud-based purchasing system with the TM Master fleet management software package.

The deal will see the companies fully integrate the KinnetikBuyer application with TM Master, allowing users to directly access e-procurement services within the software ecosystem, which also covers maintenance, crew management and quality assurance.

“I am very proud to announce this strategic partnership with Tero Marine which surpasses a plain technical integration of two software platforms and delivers a really complete solution for the procurement department of any shipping company,” said Ché Geldard, founder and CEO of Kinnetik Solutions.

“By optimising the supply chain workflows, automatically and smartly on a routine basis, we advance the maritime industry itself.”

Inmarsat launches dedicated IoT service

Inmarsat has launched a new Internet of Things (IoT) service called Fleet Data, which aims to simplify the collection and transmission of data from a ship’s onboard Voyage Data Recorder (VDR) and other vessel sensors, providing a platform for data analysis and optimisation of operations.

Developed in partnership with VDR manufacturer Danecol Marine, Fleet Data will record and pre-process onboard data before uploading it to a central (Cloud-based) database equipped with a dashboard and Application Process Interface (API).

Ship owners and managers will then be able to leverage this infrastructure to monitor real time vessel activities, linking in additional third party applications to monitor performance and fuel efficiency.

To enable the service, ships need to install a Vessel Remote Server (VRS) that Inmarsat says will be compatible with any VDR manufacturer’s equipment.

Available for both Fleet Xpress and FleetBroadband customers, Fleet Data is a bandwidth-inclusive service, meaning that data traffic is separated from the vessel’s own bandwidth package. The service has also been designed to be sensor agnostic, for connection of any type of additional compatible ship data source.

“Fleet Data will overcome key difficulties faced by those frustrated with the challenge of aggregating vessel data on board and getting it efficiently onshore,” said Stefano Poli, VP, business development, Inmarsat Maritime.

“It will allow ship operators and managers to access, control and exploit their own data, and/or to make that data available to selected third-party applications as required, via a secure platform that is fully scalable, fleet-wide.”

“Fleet Data can make data available either via a dashboard or via APIs. Data reports can be customised and modified, then sent back as a configuration file to update the Fleet Data equipment software on board.”

Inmarsat says that trials of the new service are due for completion by the end of September aboard two ships operated by an unnamed ship manager, which have been verifying performance over a six-month period by relaying data collected through fuel optimisation software.

Laboratory tests with other applications to run over Fleet Data, such as ECDIS chart updates on FleetBroadband, are also underway in Ålesund, Norway, the home of Inmarsat’s research and development centre for the commercial maritime sector.
Arcadia and CMM begin asset optimisation programmes

“We are confident in the ABS approach and look to validate our processes - with a strategic focus to improve our tankers’ efficiency and reliability - leveraging their technical expertise and strong EAM experience,” said Dimitris Mattheou, CEO of Arcadia.

“The outcome of this work will make a significant contribution to our current efforts to strengthen our asset management process.”

Kostas Vlachos, chief operating officer of Consolidated Marine Management (CMM), commented that his company has already had “intensive discussions with ABS to validate the assessment process and capabilities of the team to review our business processes, and we are quite satisfied with their technical expertise and strong EAM experience.”

“Our current efforts are focused on optimising inventory management and the reliability of our assets. The ABS EAM programme will help us streamline and automate processes to increase the reliability of our tanker and VLGC fleet,” he said.

Common Structural Rules software updated

Common Structural Rules Software LLC, a joint venture company formed by ABS and Lloyd’s Register (LR), has released a software upgrade which aims to simplify compliance with current and pending IACS Common Structural Rules (CSR).

Version 2.5 of the CSR Prescriptive Analysis and CSR Finite Element (FE) Analysis software allows assessment of whole vessel structures - including new bulk carrier and oil tanker designs - using compliance information for the current CSR, which entered into force on 1 July 2015, as well as for the rule changes that came into force on 1 July 2018. Both class societies will use these tools to evaluate new designs against the CSR.

The updated CSR Prescriptive Analysis software can be used on both Windows 7 and Windows 10, and offers summary reports providing required and offered scantlings with a graphic representation of deficiencies. The reports summarise dominant criteria for each structure as well as data for every parameter value.

A new user interface for the CSR FE Analysis software has been added to enable automatic picking or manual selection to display the stress readout point for Cruciform Flange, Cruciform Web and Bracket Toe hotspots. Results are added to verification results for Fatigue Assessment.

“The Common Structural Rules provide the only industry route to compliance with IMO’s Goal-Based Standards for tanker and bulk carrier structures,” said LR Marine and Offshore Business director, Nick Brown.

“By working together, LR and ABS have provided fully up-to-date straightforward and accessible tools for the whole industry to use when applying CSR.”

The software is currently employed by approximately 1,600 users, with the updated CSR Prescriptive Analysis and CSR FE Analysis modules available for download from the Common Structural Rules Software LLC website.

Maritime startup accelerators gain support

Wärtsilä and Cargotec have respectively announced partnerships with two separate maritime startup accelerator programmes, to support the development of new technologies for the shipping and logistics sectors.

Wärtsilä has partnered with Rainmaking Ltd that connects startups and established companies to address challenges in maritime, cargo transport and logistics.

“We are delighted to be working with Wärtsilä to seek relevant innovation for the maritime sector,” said Hannan Carmeli, founder and CEO of theDOCK.

“Wärtsilä has been leading the way in constantly exploring new boundaries. Areas such as the automation of vessel functions, advanced maintenance, cyber security, and others will play an important role in our collaboration.”

Cargotec meanwhile has announced its own agreement to join a Trade & Transport Impact programme initiated by Rainmaking Ltd that connects startups and established companies to address challenges in maritime, cargo transport and logistics.

The programme is scheduled to last three years, based out of Hamburg, Germany.

“Over the years we have built proven models and experience in other industries, and we are now bringing this to maritime, cargo transport and logistics,” said Alex Farcket, partner and founder of the Rainmaking startup accelerator.

“We are excited to do this with Cargotec, which has a unique position in the global cargo flow chain and needed capabilities and mindset to truly impact the industry change, together with other players in that field.”

Yuanben blockchain to bolster Maritime Silk Road

Chinese firm Yuanben reports that it has signed a ‘Blockchain Technical Service Cooperation Agreement’ with the Maritime Silk Road Platform, created by Zhuozhi Logistics Group, that will see the companies work together to provide blockchain services for global maritime freight.

The Maritime Silk Road Platform is an online public booking system connecting agents and logistics networks across China. The agreement with Yuanben will see blockchain technology used to provide digital content deposit certificates and a search interface for cargo tracking to more accurately manage trade flows.

“The support for the blockchain technology for the offshore Silk Road is a new expansion and innovation in the application of blockchain. This exemplifies cooperation between emerging blockchain technology and traditional information systems,” said Fan Xi, head of the blockchain initiative at Yuanben.

“This successful example of a combination of management system technologies will promote a more efficient, transparent and secure development of the supply chain industry and accelerate the upgrade of global trade.”

The Yuanben blockchain relies on a Decentralised Trusted Content Protocol (DTCP) and uses smart contracts and encrypted algorithms to allow for secure access to data within the chain. The system’s ‘Yuanben DNA’ interlock mechanism ensures that data on the chain cannot be modified.

The system will be used by the Maritime Silk Road Platform to add a unique digital identity to each batch of goods, alongside its agreed logistics parameters. The logistics information is fed back into the system in real-time, to allow for improved management of the cargo transportation process.
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Integrates with sensors for temperature, light, humidity, alarms, global keep-alives, and a variety of other internet-connected equipment

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GLOBAL COVERAGE:
Even for new polar and northern passage shipping routes with connectivity in any kind of weather, including rain

SAFETY & SECURITY:
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**Samsung agrees cloud deal with Amazon**

www.samsungshni.com

Korean shipbuilder Samsung Heavy Industries has announced a deal to make Amazon Web Services (AWS) its preferred Cloud services provider as it continues development of its smart ship and autonomous vessel programmes.

Samsung Heavy Industries says it will look to expand its capabilities in these areas by leveraging AWS’s various technologies, including machine learning, augmented reality and virtual reality, analytics, databases, computing and storage.

The shipbuilder will use the AWS infrastructure to underpin its integrated systems, collecting vessel-related data on shore, and to power Big Data analytics systems to improve ship navigation.

AWS machine learning services will also be used to provide real-time alerts to vessel operators about the condition of their ships, while Amazon Sumerian technology will be employed to create a virtual replica of vessel bridges for land-based training and simulations.

“We’re digitising our shipping fleet by using the most advanced technologies in the world to enhance our approaches to shipbuilding, operations, and delivery, and chose AWS as our preferred Cloud provider to help us quickly transform Samsung Heavy Industries into a Cloud-first maritime business,” said Dongyeon Lee, director of the ship & offshore performance research centre at Samsung Heavy Industries.

“By leveraging AWS, we’ve successfully released several smart shipping systems so that our customers can manage their ships and fleets more efficiently, and we continue to test new capabilities for ocean-bound vessel navigation and automation.”

**ECO Insight adds data partners**

www.dnvgl.com

DNV GL has signed partnership agreements with WinGD, VAF Instruments and Viswa Lab to connect to its ECO Insight fleet performance management software package, to channel the vessel data collected by their respective systems into the ECO Insight application.

WinGD will deliver engine information and analytics, while VAF Instruments, as a manufacturer of thrust, power and fuel meters as well as propulsion performance monitoring systems, will provide data to improve the accuracy of hull degradation assessments.

Viswa Lab, as a fuel testing company, will directly feed fuel test results into ECO Insight, including fuel quality data, such as calorific value or water content.

“We are very much looking forward to cooperating with innovative companies like WinGD, VAF Instruments and Viswa Lab,” said Torsten Büssow, DNV GL’s global head of fleet performance management.

“We want to offer an integrated solution for fleet performance that provides better analytics while streamlining the work of the crew onboard, by avoiding double entry and additional administrative tasks.”

To date, DNV GL says that some 22 industry partners have connected their data and analytics to the ECO Insight system.

**Euronav software implementation project begins**

www.sertica.com

Euronav has begun the rollout of the SERTICA maritime software platform from Logimatic across its fleet of approximately 50 vessels, with the first ship in the programme now successfully installed.

Euronav has offices in both Antwerp and Athens, with the tanker vessels managed from the Athens office while the FSO and VPLUS vessels are managed from Antwerp. Logimatic says that implementation across all of the vessels is expected to be completed within four months.

“It is our ambition to be in greater control of our processes by creating an overview of the entire fleet in SERTICA,” said Rudi Vander Eyken, group IT manager at Euronav.

“We follow an ambitious project plan and on top of this, we have just added six additional vessels acquired recently. However, converting to SERTICA on the first vessel has been very efficient, so I am confident that SERTICA is live on all vessels in four months as planned.”

As well as applying the technology to its maintenance, procurement and safety functions, Euronav will be using the newly developed Master Data Management module as part of its software package, which is used to manage data on jobs, spare parts, documentation and components.

“Today, the seafarers must follow regulations, follow specific processes and deliver reports. To do this, they need a simple tool for reporting and for gathering all this data,” said Maria Rousou, technical superintendent at Euronav.

“Luckily, SERTICA is a user-friendly system, so the seafarers spend limited time on reporting and more time on performing their tasks.”

“One thing is the training of the system, another is deciding internal processes and workflows. Sometimes the system needs to adjust to our processes and other times it may be more efficient if we adjust our procedures to the system.”

**Dupre Marine goes live on new crewing software**

www.hanseaticsoft.com

Hanseaticsoft is launching an improved crewing module for its fleet management system, with Cloud Crewing 2.0 aiming to help shipping companies to better manage crews across multiple ships.

The software is available within Cloud Fleet Manager (CFM), the company’s web-based platform which allows data to be centralised, processed and accessed in real time using apps and mobile devices.

New functionalities and enhancements in Cloud Crewing 2.0 include an expanded Payroll module and the ability for crews to log into Cloud Ship Manager to personally enter their rest hours on board.

Other added capabilities include a Travel Expenses app, which allows the crew to enter travel requests and related expenses directly while on board, a Cashbox app for handling of cash on board, a Bonded Store app functioning as an onboard shop, a Pharmacy app to manage medication on board, plus a new Crew Portal so crews can manage their own data and documents.

“We’re delighted to launch our new and improved crewing solution,” said Alexander Buchmann, managing director of Hanseaticsoft.

“Managing crews across multiple ships and teams can be complex, expensive and time-consuming. Our crewing solution has helped shipping companies overcome these challenges, making the management of crewing processes simpler and more transparent. Information can be accessed to provide complete visibility of crewing processes wherever needed via the internet.”

“Shipping companies are increasingly turning to technology to address management challenges and improve efficiency. We are continually developing and improving our innovative software solutions to meet growing demand as the industry embraces technology.”

**Hanseatiscsoft updates crewing module**

www.hanseaticsoft.com

www.dnvgl.com

US-based Dupre Marine Transportation has become the first company to go live with the newly-launched Helm CONNECT Personnel software for crew management and payroll, the companies report.

The personnel module is part of the Helm CONNECT software platform, which covers a variety of aspects of marine operations from vessel dispatch, chartering, and invoicing, to maintenance, compliance, and now personnel management, crew scheduling, and payrolls.

“Dupre Marine Transportation is a Houma, Louisiana-based tow boat operator specialising in petrochemical transport. The company began with Helm CONNECT Maintenance and Compliance in 2016.”

“Our old system was difficult for our vessel staff to navigate, and we were still using paper for many of our forms and inspections,” said Calvin Self, operations manager at Dupre.

“Since implementing Helm CONNECT, we’ve become a more efficient, better organised operator, and have improved communication with our vessels. We now have better insight into what’s happening on the boats and can easily see what’s being done and when it’s being done.”

“(With the Personnel module), instead of using Excel to manage crew changes we can now see everything in one system, including who’s on which boat, who’s already scheduled to work, and who has a conflict. The transparency for the crew is also a huge win. Changes don’t get lost in e-mails and the crew can log into Helm CONNECT and see everything instantly.”
ECDIS NX
THE FIRST USER-DEFINED ECDIS

The new ECDIS NX has been designed from the scratch under continuous user participation and user workshops, making it the world’s first user-defined ECDIS.

Raytheon Anschütz now completes the new Synapsis NX series:

Thanks to an unparalleled intuitiveness, Synapsis NX supports users and contributes to efficient operation and safe navigation.

www.raytheon-anschuetz.com/nx-generation
Class societies go all in on digitalisation

**Maritime’s biggest classification societies are rushing to keep up with the digitalisation of the sector, making moves to develop their own guidelines and certification for technology deployment, digital twins, online services and autonomous operations**

Class societies Lloyd’s Register, DNV GL, Bureau Veritas and RINA have all announced a range of separate new initia- tives to support the effective development of technology-enabled vessels at sea as well as secure support services onshore, as we move to the era of what RINA describes as the ‘Digital Ship’.

Italian classification society RINA has launched a new ‘Digital Ship’ class nota- tion for shipowners to demonstrate their effective use of digital technology to moni- tor and optimise vessel performance.

“Digitalisation is set to change the marine industry, driving new levels of operational understanding while optimis- ing systems,” said Paolo Moretti, EVP marine strategic development at RINA.

“As a class society we recognise that the digital journey has only just begun but it is our firm intention to lead the shipping industry in the development and applica- tion of this technology to drive down costs and increase operational efficiency.”

Grandi Navi Veloci (GNV), part of MSC Group, is the first company to receive the new RINA notation, certifying 11 ships in its fleet, which have been equipped with a data collection system.

The certificate will be assigned to ships fitted with a navigation and machinery data collection system that enables its transmission to shore. That data is then stored in the Cloud-based RINAcube plat- form, launched by the class society in December 2017.

“Data in the marine industry we are wit- nessing an increasingly accelerated process of digitisation. Through a process of struc- tured performance management and digi- tal solutions of advanced data analytics, GNV constantly monitors ship perform- ance, optimising in real time,” said Mattia Canavari, energy manager at GNV.

The digital component has seen a rethinking of concepts in a strategic way, as an added value to the company’s core business, and it will assume ever greater importance in our processes. We are proud for the new RINA additional notation that confirms the good work done.”

**Lloyd’s Register**

Lloyd’s Register (LR) meanwhile has announced that it has developed what it claims is the first ever data-driven compli- ance framework for the marine and off- shore industry, to be named ‘Digital Compliance’.

The ‘Digital Compliance’ framework relates to the use of ‘digital twins’ in the ongoing optimisation of a vessel and its systems, and has been developed in collabora- tion with a range of industry partners.

The framework is applied through a series of defined levels with a system provider and the vessel operator, to build confidence a digital twin is being used within an effective digital health management (DHM) system.

LR says it will assess and give recognition to the capabilities of a system provider to create an asset-specific twin under the pro- gramme, to build confidence in the DHM system from the commissioning stage.

The ultimate goal is to award the descriptive note ‘Digital Twin LIVE’, which will grant credit for survey activity through demonstrated functioning of the twin over time.

This LIVE note is the fourth and highest level in the programme, which starts with ‘Digital Twin READY’ to signify that the DHM provider and/or service centre is capable of developing, deploying, moni- toring and maintaining a reliable digital twin. This is a vendor level approval.

The next ‘Digital Twin APPROVED’ cer- tificate ensures that the digital model type to be used for a twin is capable of repre- senting the specific physical asset with suf- ficient reliability and accuracy, while the third-level ‘Digital Twin COMMISSIONED’ descriptive note is awarded to the operator of the asset when they begin using the approved digital twin from the provider.

The first ‘Digital Twin READY’ approval has already been granted, with an Approval in Principle (AiP) for an asset from GE refering Asset Performance Management (Predix APM) software and service systems.

As such, GE is now recognised by LR as providing assurance that Predix APM meets the data, technology and software requirements for a predictive system. The AiP also covers the design, build and func- tioning of the GE Predix APM.

In ‘Digital Compliance is the framework that sets the foundation for what we call ‘Digital Class’. Digital Class is the vision we have, where advanced technology and data-driven techniques will allow our clients to demonstrate compliance with Class requirements in the future, remotely, periodically and/or continuously and we are actively engaging with flags to discuss how we can extend this to statutory aspects,” said LR Marine and Offshore director, Nick Brown.

In addition to digital twins, LR has also announced a new co-operation project with Korean shipbuilder HHII to value the quality of blockchain when applied to shipbuilding.

“We are glad to explore blockchain technology with LR to find out the value for new building,” said Hong-Ryuel Ryu, vice president at HHII.

“We expect (the) blockchain project (will enable) us to ensure that our project plan- ning and initial designing work are more efficient. All relevant information is trace- able, demonstrable, transparent, recorded in a way (that) all parties can trust that activities happened in the prescribed way, and the outcome of such activity conforms to requirements of the contract.”

Blockchain technologies are expected to be used in shipbuilding or in the entire multi- stakeholder chain related to shipbuilding, to allow for more effective and efficient collaboration and exchange of informa- tion during the process.

The announcement was made as LR introduced a new blockchain-related demonstrator project which aims to exam- ine the benefits of using blockchain to register ships into class, based on a new prototype blockchain-enabled register tool developed in collabora- tion with UK com- pany Applied Blockchain.

“LR has tested blockchain technology as an enabling to enter a ship into class and we have identified multiple potential sources of value by adopting this technol- ogy in relation to the management of the activities required as part of this process,” said Mr Brown.

“A blockchain-based register provides immutability and auditability, therefore for providing enhanced trust for regis- teration provided on the platform and also potentially facilitating the trusted information to be available ‘up-to-the-minute’ allowing financing, insuring, payments etc to be provided more dynamically.”

“This value discovery project has culmi- nated in a prototype blockchain-enabled register tool. We are now focused on how we can extend the value to other stake- holders in the maritime supply chain.”

**Bureau Veritas**

Bureau Veritas (BV) and GE Oil & Gas have introduced a new part- nership deal with bluester, linking its digi- tal platforms with the bluester online mar- ketspace and providing independent ven- ditor qualification services to bluester users.

“Bluester’s online marketplace enables buyers and suppliers to transact through a common interface, where ship managers and service providers automatically, impartially and transparently match against their own predefined criteria for direct contract conclusion on the platform.”

“Whether it is diving inspections, lifeboat maintenance and repair services, compass calibrations, CO2 bottle refills, load testing of cargo cranes through to dry docksing or hull or damage surveys, bluester is providing visibility and transpar- ency in a competitive market place,” said Christoph Kiese, CEO of bluester.

“Both the market coverage of bluester and the functionality has established what we think is a unique platform in the mar-itime industry.”

Desktop and global online verification of bluester-listed service providers will be pro- vided by Bureau Veritas to offer an added layer of safety when directly contracting through the platform, as service providers’ qualifications and documentation will be inspected to provide impartial validation.

The bluster platform will also be inte- grated into Bureau Veritas’ own digital tools like VeriSTAR Info, My VeriSTAR, BV Approval Explorer and PSC Ready, giving BV users access to the marketplace via a single sign-on. Once registered, users can access the portal with the click of a button from their BV desktop and mobile platforms.

**DNV GL**

DNV GL reports that it has released a new class guideline covering autonomous and remotely operated ships, aiming to cover new operational concepts that do not fit within existing regulations, and technolo- gies that control functions that would nor- mally be performed by humans.

“A new set of sensor, connectivity, analy- sis, and control functions in maritime technologies is laying the foundation for remote and autonomous operations in shipping,” said Knut Ørbeck-Nilssen, CEO of DNV GL – Maritime.

“Increased automation, whether in the form of decision support, remote opera- tion, or autonomy, has the potential to improve the safety, efficiency and environ- mental performance of shipping. To reach this potential, the industry needs a robust set of standards that enables new systems to reach the market and ensure that these technologies are safely implemented.”

The guideline has been introduced to assist those who wish to implement these new concepts by providing a process towards obtaining approval under the alternative design requirements of flag states, while suppliers can also use the guideline to obtain an approval in princi- ple for newly developed technologies.

The guideline covers navigation, vessel engineering, remote control centres, and communications, and maintains a particu- lar emphasis on cyber-security and soft- ware testing.

Both the concept qualification process and the technology qualification process include cyber security aspects in the risk analysis, covering the systems themselves and associated infrastructure and network components.

**SGS**

SGS and GE Oil & Gas announced a demonstrator project with blockchain tech- nology to measure and verify emissions. The partners aim to launch a blockchain platform for companies to report and verify their emissions, with the goal of guaranteeing transparency and trust in the reporting process.

This initiative is part of SGS’ sustainability strategy, which focuses on bringing transparency and trust to the verification of sustainability and climate change data. The blockchain platform will be used to create a tamper-proof, transparent and reliable record of emissions data, which can be verified by other parties.

The blockchain technology will enable companies to upload their data into a secure, distributed ledger, where it can be cross-verified by multiple parties. This approach is expected to increase confidence in the accuracy and completeness of the data, while also reducing the cost and time required for verification.

The demonstration project is expected to start in Q1 2020 and will involve several pilot companies from different industries. The partners aim to expand the platform to cover a wider range of companies and sectors over time.

The project is part of a broader collaboration between SGS and GE Oil & Gas to explore the use of blockchain technology in the energy and resources sector. The partners have already developed several blockchain applications for supply chain management and traceability purposes.

**Det Norske Veritas & DNV GL (DNV GL)**

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Both the concept qualification process and the technology qualification process include cyber security aspects in the risk analysis, covering the systems themselves and associated infrastructure and network components.
In May 2018, 46 organisations spanning every sector of the Japanese maritime industry announced their membership of a new consortium aimed at promoting collaboration in technology development and data sharing between stakeholders, with the launch of the Internet of Ships Open Platform (IoS-OP).

The creation of the IoS-OP has been fuelled by a recognition of areas of common interest among users of services provided by Ship Data Center (ShipDC), a ClassNK subsidiary established in 2015 with the goal of providing maritime stakeholders with access to an open data platform that could be used as a basis for information collection, sharing and analysis.

ShipDC will provide the operational platform for the IoS-OP, managing security and data access control, which will be run independently from ClassNK.

Members of the consortium will pay an annual membership fee to be part of the platform, which is expected to run at a marginal profit based on these contributions but is not a moneymaking venture.

"The Internet of Ships Open Platform (IoS-OP) is a common platform to share and distribute operations data from ships to enable shipbuilders, manufacturers and other stakeholders to access data without infringing on the data providers' interests," explained Yasuhiro Ikeda, president of Ship Data Center Co, Ltd, in an interview with Digital Ship.

"IoS-OP consists of the data centre service and the common rules for data distribution agreed among the industry. The initiative is aiming to co-create data-driven new value, new solutions, and foster innovation."

"Since the establishment of ClassNK's subsidiary in 2015, ShipDC has discussed with industry players how best to utilise the data related to ships, as well as managing data centre operations and technical trials to transmit the ship data to shore. The players came to a conclusion on the necessity of common rules for data properties and distribution, and the need for a neutral, reliable, and independent scheme."

Since the ShipDC was established, work has been underway to design and develop the technical platform required to effectively allow data sharing among users, shaped by discussions with various industry partners (the potential users of the system) to establish the policies and rules they would require from an open platform.

In 2017, an exploratory group was created to prepare for the creation of the IoS-OP consortium, which gathered approximately 50 industry stakeholders to discuss issues like data governance and potential business models.

A framework for this first incarnation of the IoS-OP was drafted in early 2018 as a result of these discussions, before the official launch and introduction of the member group a few months later.

Data sharing rules

The first major objective for the consortium is to define the data sharing framework of the platform and to frame a policy to cover any issues that may arise in relation to data sharing, according to Dr Hideyuki Ando, senior general manager at Monohakobi Technology Institute (the technology R&D arm of consortium member NYK Line).

"In the era of digitalisation, how to share the data generated from ships during operations is one of the key issues," he told us.

"To support continued growth in the maritime industry of utilising data in the digitalisation era, several levels of standards, rules and other common ground are necessary for sharing that data. ShipDC and IoS-OP were borne from such discussions by the leaders of the maritime industry in Japan."

"How to share the data from ships among the maritime industry is not only an issue in Japan, but also a common issue in the global maritime industry. So, we expect our approach in Japan and lessons learnt there will be shared globally. As a result, we expect we will have common rules about sharing the data from ships in the global maritime industry."

Some of the early work in this regard will be informed by previous maritime technology development efforts in Japan through the Smart Ship Application Platform initiative, a joint industry project led by Dr Ando that has run through various phases since 2012 and is backed by the Japan Ship Machinery & Equipment Association (JSMEA), the major Japanese shipping companies and shipyards, as well as a range of other stakeholders.

In particular, standards developed by the SSAP project to manage onboard data collection will be expected to be adopted by the IoS-OP.

"Two ISO standards, ISO 19847 (requirement for the onboard data collection box), and ISO 19848 (standard for the sensor data model and format), are the work of the SSAP (Smart Ship Application Platform) Project," Dr Ando explained.

"They are now at the final stage, called FDIS (final draft International Standard), and the FDIS drafts are being voted on up to the middle of September 2018. We expect they will become ISO standards officially before the end of this year."

"The benefit of being ISO certified is to reduce lots of cost and effort. Otherwise many people have to spend lots of hours on similar redundant work. The objective of the two ISO standards is to define an onboard IoT gateway and the IN/OUT data communication protocol/format of the gateway. These specifications are not an area of technical competition, but rather they should be an area of common ground."

Data hosted by ShipDC will be available to users in the open data format specified for the IoS-OP, and members (depending on their membership level) will also have access to standardised open APIs (application programming interfaces) to allow for the integration of data sets with external applications.

"That’s why ShipDC runs the secure data centre and IoS-OP consortium common rules are developed - the provider of data, expected to be shipping companies, can identify and decide the extent to which they distribute their data, and the related processes and legal points are standardised as per the common rules,” said ShipDC’s Mr Ikeda.

"We hope the services and solutions created utilising the data distributed through IoS-OP will encourage more people and convince them of the tangible benefits.”

Dr Ando is similarly aware that shipping companies will likely have reservations about sharing data about their operations with third parties and notes that assuaging these concerns is a priority in development of the platform.

"That is, of course, a very natural concern for shipping companies. And it is not only the concern of shipping companies, but also shipyards, equipment manufacturers and others,” he said.

"So, data security – especially against competitors – is a basic requirement for the open platform and is implemented as part of the rules of IoS-OP. IoS-OP is also discussing anonymisation and statistical processing to find an agreeable level of abstraction for sharing data, even for competitors, for each data type."

"I think the important thing is to understand each customer in their way of operation, business, people, organisation etc. With a good understanding of them and their problems, those providing solutions should support solving their problems first, rather than pushing uniform solutions.”

Sharing benefits

Regulatory changes in the maritime sector may drive some of the early movement among reluctant data sharers, as authorities demand increasing levels of emissions data and ports look for access to voyage details to improve vessel transit times, but it is hoped that the ‘carrot’ of potential benefits from data sharing will soon outpace the ‘stick’ of compliance.

"In view of safety and economy, several members refer to operational performance analysis and condition monitoring of machinery as their purpose for this. The key driver at the initial stage will be a solution whose return on investment is identifiable, like the one for tightened environmental regulations,” said Mr Ikeda.
“Considering the nature of ships, which is a self-contained system with lots of machinery and equipment monitored remotely from a complex external environment, our industry has a chance to benefit from Digital Twins as digital replicas of physical assets. Digital Twins will give us the insight to understand what will happen, as well as what is happening on the specific ship.”

Any data stored or distributed through the IoT-OP will be the element of future Digital Twin. Each manufacturer in the IoT-OP Consortium will be able to utilise them to form Digital Twins for each product.”

Dr Ando agrees that the ability to perform a greater level of vessel performance analysis and voyage management will provide the ‘quick wins’ for IoT-OP members on the ship operations side.

“There are still not many applications that exist yet, but engine plant performance and safety management would have a lot of potential in IoT and Big Data usage and, though there are several types of cargoes, cargo management also would be a target,” he said.

These benefits are also dependent on the end involvement of shipyards in operations. Nevertheless, the consortium believes that there will be opportunities for many types of ships to improve performance by retrofitting required systems.

“We think that IoT technologies are feasible for retrofit on existing ships. However, on some of the older ships, where the IAS (Integrated Automation System) or engine data logger doesn’t have a function to export data, in these cases extracting data from such equipment is difficult and applying IoT technologies may not be feasible,” said Dr Ando.

“In newbuilding ships, we may be able to install additional sensors and control systems more easily. Automated processes and partly autonomous ship development will certainly be more suitable for newbuildings.”

Member growth

There is a certain level of ‘chicken and egg’ balancing in the development of the IoT-OP - ship operators may be reluctant to share their data until there are a range of tangible benefits on the table, but equipment manufacturers and other solution developers will need a critical mass of data contributors to the platform to turn the value-adding services that those operators want.

One group the consortium would like to see more enthusiasm from is shipbuilding firms, who Dr Ando believes should embrace their role in the development of smarter, more connected vessels.

“The challenge for them is still their business model is just to deliver the new building ships. However, I think more involvement of shipyards in operations will be necessary,” he said.

“Ship owners and operators need the help that can be provided by the technical solutions they will affect in many aspects, and that creates a business opportunity for the shipyards.”

Convincing potential new members to join the consortium will require a certain level of faith in the gains that the consortium is describing for other stakeholder groups. Vessel operators should get access to a greater range of data-driven and IoT powered services, while equipment manufacturers can hope to gather better performance data about their installed products to improve new generations of machinery.

Regulatory authorities could benefit by building reporting schemes around the standards set out by the consortium and gain a better level of vessel operational understanding, while cargo owners can integrate more closely with the maritime sector and drive knock-on benefits across the supply chain.

“Getting the consortium to IoT-OP is to try to draw a future vision of the maritime industry created by the maritime industry ourselves, rather than waiting for external players to disrupt the industry,” said Dr Ando.

“With the capabilities of modern computing, we have to maximise our utilisation of digital technologies to enhance our safety and efficiency. Otherwise a smarter approach from outside may bring disruption.”

Mr Ikeda of ShipDC concurs with this sentiment, noting that “IoT and Big Data technology will affect the entire business, including logistics.”

“The IoT-OP Consortium is the proposal and initiative to control and best utilise maritime data itself. It will work as the cooperative platform for sharing the data, which will minimise the incurred burden and cost, so that the maritime players can focus on developing its own solutions to strengthen competitiveness.”

With the project having just got fully underway, plans are already in place to widen the scope of the IoT-OP beyond Japan, with the consortium noting that its system will be open to interact with other data sharing initiatives in different regions, in line with its ‘open platform’ design. These expansion plans will also include the addition of new members across the globe in the next few years.

“We set the goal to invite 85 companies to take part in the consortium by the year 2022. This figure includes members from outside of Japan,” said Mr Ikeda.

To almost double the number of IoT-OP members in just four years will be no easy task, but having the backing of the majority of stakeholders in the world’s second largest shipowning country means that the consortium is at least starting from a position of some strength. Their success in persuading others to join the party will be interesting to observe.

YA-SA Ship Management signs fleet tracking deal

www.bigocamedata.com

YA-SA Ship Management & Trading, based in Istanbul, Turkey, has agreed a contract for the supply of global vessel tracking and monitoring services from BigOceanData following a successful initial trial on five vessels.

The deal covers fleet monitoring services for an initial twelve-month period for the YA-SA fleet of 26 bulk and tanker vessels, combining data from terrestrial and satellite AIS together with Inmarsat-C position reporting.

“We consulted with the YA-SA team over several weeks to ensure that they received a bespoke service exactly matching their requirements,” said Ryan Dawe, BigOceanData.

“This customisation and development work included such elements as abbreviating each vessel’s name and colour coding them on the map to enable YA-SA users to immediately distinguish between PanamaX, Super Handy Max and other vessel types showing on their displays.”

The browser-based BigOceanData system allows fleet managers to monitor vessel locations and store this information for later analysis. It also issues automatic alerts if a vessel strays outside an approved route that has been previously input into the system.

“With the increasing integration with the IoS-OP, we aim to bring new data to the future situation as well as the future situation with the YA-SA Shipping and YA-SA Tanker need to know where our vessels are at all times. We also need to be able to monitor the conditions they are operating in at any time, including weather, sea-state, and position relative to certain defined zones, as well as the conditions that they may encounter ahead on their route,” said Mehmet Kayhan, general manager of YA-SA Ship Management & Trading.

“BigOceanData provides us with more capabilities to understand their present and future situation than other providers due to its advanced features and options.”

C-MAP updates Integrated Maritime Suite

www.c-map.com

C-MAP has announced an update to its Integrated Maritime Suite (IMS), with version 2.0 having been developed based on collaboration with customers to integrate a range of different voyage management tools.

The new system combines modules for chart and publication management, weather, route planning, and route optimisation into a single package, built on a modular design so customers can select only the charts and tools they need.

“C-MAP has long assisted bridge teams during all stages of the passage, from appraisal and planning to execution and monitoring to ensure safe and cost-efficient transit while supporting the ship master with compliance,” said Captain Sujit Padiye, routing team operations manager for C-MAP.

“This new release of IMS enhances these characteristics by integrating our chart and publication management tools so voyage optimisation and navigation are available in a single application. C-MAP IMS 2.0 is mission-ready for a new era of back-of-bridge efficiency.”

The system offers digital and paper chart and publication management, generation of voyage and passage reports, route planning and weather viewing, as well as voyage optimisation based on the owner’s or operator’s commercial objectives such as on-time or earliest arrival, least cost or ordered speed.

This functionality is combined with multiple data layers, including weather layers, voyage planner and ports databases, C-Routes, ECA and risk zones, to quality decisions and control processes.

Wilhelmsen introduces FRED

www.wilhelmsen.com

Wilhelmsen Ships Service has unveiled a working pilot of its new FRED (Framework for Enterprise Data) customer portal, which will provide customers with an instant overview of all their transactions on demand.

Developed by the company’s Marine Products division, the FRED integrated platform offers direct access to transaction information, including invoices, delivery notes and order history, and allows users to view the current delivery status of orders. Certificates for products such as ropes can also be retrieved within the portal.

“FRED is an online banking, e-commerce, as consumers we take for granted that we can access our account details, or ordering information anywhere, anytime with just a few keystrokes,” said Nakul Malhotra, vice president, technical solutions & marketing, Wilhelmsen Ships Service.

“Yet shipping, as an industry, is typically slower to realise and effectively harness the power of new technologies. We’re focused on changing that, and especially when it can totally transform our customers’ experiences and interactions.”

“FRED was developed as a direct response to customer feedback and it cures an established and totally avoidable pain point. Transactional data on demand frees up an enormous amount of time. But more importantly it allows us to provide customers invaluable insight into specific needs and create efficiencies related to the pre-purchase/purchase and post purchase processes for the management of marine products for customers.”

FRED is accessible via desktop or on mobile devices, and has built in alert settings relating to order status, or usage such as highlighting when cylinder assets have been on board for extended periods.

The system also features 24/7 support, and has been designed to respond to customer feedback and expectations, using the latest user-friendly technology.
Live demonstration for collision avoidance system

V.Group announces ‘Fleet Cell of the Future’ for technical management

SEERAD system to improve sea rescue

Digital Ship
Dubai-based Elcome International has introduced a new field service management concept harnessing technologies like mixed reality, artificial intelligence (AI), holographic computing, Cloud-based Internet of Things (IoT), collaborative databases and knowledge-based software tools to create a new data-driven ship services model.

The new platform was developed for Elcome by Hitachi Solutions and built on Microsoft Dynamics 365 software, integrated with Microsoft HoloLens wearable mixed reality technology.

All aspects of ship service are digitally managed within the system, including initial service request, scheduling the service call, assigning the most appropriate service engineer for a specific job, ensuring the proper service kit with the right spares and tools, performing and documenting the repairs, logging manhours, testing, recertifying and following up.

“The new Elcome Onboard 365 field service platform will create a paradigm shift in the maritime industry,” said Jimmy Grewal, Elcome’s executive director.

“This revolutionary suite of service management tools will provide greater transparency, improve efficiency, reduce errors, speed up repairs, lower operational costs and minimize downtime to a degree never before possible in this industry.”

“The result is a seamless end-to-end experience for Elcome’s service organisation, engineers, shipping companies and OEM partners. We believe these tools will enable us to achieve a near-perfect first-time fix rate, improving on our current industry-leading 96% per cent score.”

As part of the implementation of the new service programme Elcome says it is digitising its massive service files, containing hundreds of thousands of job reports dating back nearly 20 years, roughly reflecting the average lifespan of a ship and most equipment onboard. This data will be used to construct a searchable database library using Big Data and AI tools to provide insights into different types of equipment failures, repetitions, fault symptoms and remedies.

The integration of HoloLens headsets will provide service engineers with hands-free access to necessary data, including equipment history, diagnostics, schematic drawings, technical manuals and even remote face-to-face consultations with experts, all superimposed holographically on a live image over the real-world view. The built-in camera can also be used to document the repair and record the repair work in the job report.

“We plan to deploy the HoloLens headsets to all service engineers as part of their standard kit,” added Mr Grewal.

“We will also make them available to ships covered by Elcome annual service plans. This will enable the ship’s crew to communicate with Elcome’s service centre to diagnose the problem, so our technicians can help the crew to troubleshoot it before sending a service engineer onboard and to prepare the service kit of parts and tools tailored for the job before boarding the ship.”

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The new, all-in-one platform will allow StormGeo and Nautisk customers to optimise routing, obtain appropriate charts, and create a voyage plan without switching between disparate systems, integrating navigational information with weather intelligence and proprietary route optimisation algorithms.

“The acquisition of Nautisk is a natural complement to our existing solutions to the global shipping industry,” said Per-Olof Schroeder, CEO of StormGeo.

“In recent years, Nautisk has developed state-of-the-art software for use in planning and navigation, while maintaining one of the industry’s best run operations for delivering paper charts and publications to vessels worldwide.”

“The power of the combined StormGeo-Nautisk solution will directly benefit customers as we advance our vision as a premier shipping services player. We are proud to lead the industry in creating the first, fully-integrated navigational planning solution in the market.”

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Raytheon Ansichutz to supply Ritz-Carlton newbuild

Raytheon Ansichutz has announced a deal to supply its Synopsis NX Integrated Navigation System (INS) to the first vessel in a new series of passenger ships being built for The Ritz-Carlton Yacht Collection at the Spanish Barreras shipyard of Vigo.

The INS is part of a larger contract awarded to ABB’s Marine and Ports Business, which is acting as the total ship system provider and integrator for the new class of ships.

“Being selected to deliver our high-end navigation systems to these most advanced passenger ships marks another milestone for Raytheon Ansichutz,” said Andreas Lentfer, director of business development at Raytheon Ansichutz.

“We believe that combining our expertise and capabilities in Integrated Navigation Systems with the wide scope and power of ABB’s marine solutions will deliver customers a unique set of benefits, in particular in advanced projects like passenger ships.”

The supplied bridge systems will include multifunctional workstations with autopilot and a track control system, as well as radars, navigation sensors, and communication systems. The navigation system is integrated with ABB’s automation, propulsion and dynamic positioning systems.

All bridge equipment is integrated within a network environment and includes two 19” racks for PCs, network components and extenders.

Danelec improves ECDIS line

Danelec Marine has improved its ECDIS line with the inclusion of a universal radar overlay module that allows radar images to be superimposed on the electronic chart display, and a new cunning display dashboard with the status of all navigational subsystems and sensors.

The new functionality is now available with Danelec Marine’s DM700 and DM800 G2 ECDIS products.

The radar processing unit (RPU) can be interfaced with most current radar systems from major manufacturers, Danelec says. The unit receives the data stream from the radars and converts it into a format for overlaying on the ECDIS chart display, with a single RPU able to feed radar images to multiple ECDIS workstations on the ship.

The conning display dashboard provides a summary of the status and performance of all connected navigation systems and sensors, such as gyrocompass heading, speed, water depth, engine RPMs, wind speed and direction, rudder angle and rate of turn.

In related news, Danelec reports that its DM700 and DM800 G2 systems have also now received type approval certificates from the US Coast Guard.

StormGeo buys Nautisk

StormGeo reports that it has entered into an agreement to acquire Nautisk, a supplier of charts and publications to the merchant marine sector, from NHST Media Group, a deal which will see StormGeo integrate its routing and weather services with Nautisk’s digital navigation data offerings.

“The acquisition of Nautisk is a natural complement to our existing solutions to the global shipping industry,” said Per-Olof Schroeder, CEO of StormGeo.

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Martek Marine has announced the official appointment of Erik van Wilsum as head of its M.A.D.S (marine anti-drone system) division. Mr van Wilsum has previous experience in a variety of roles across the power electronics and counter UAS (Unmanned Aerial System) industries.

Bakker Sliedrecht and RH Marine have announced a new partnership agreement that will see the companies collaborate on knowledge sharing projects and which will enable both companies to offer cross-market systems from their respective portfolios.

RIMS (Robotics In Maintenance Strategies) has added another class society approval for the use of its Remote Inspection Techniques (drones) during surveys of enclosed spaces, from ClassNK. This adds to existing approvals already secured from Bureau Veritas, Lloyd’s Register, ABS, RINA and KRS.

The UK Hydrographic Office (UKHO) has appointed Cathrine Armour as the new director of its customer division. Ms Armour joins the UKHO from Catapult’s South West Centre of Excellence in Satellite Applications, a partnership led by the University of Exeter to stimulate the data economy in the UK, having previously led the development of the Ordnance Survey’s Geovation Hub and accelerator programme.

Cathrine Armour, new at UKHO

www.rhmarine.com

www.rhmarine.com

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More details on www.furuno.com
Rolls-Royce and MOL complete Intelligent Awareness pilot

Rolls-Royce, general manager of imaging cameras and its Light Detection and Ranging (LiDAR) system to visually detect objects that the navigating officers were able to use the systems to visually detect objects that would otherwise have been obscured by darkness.

The vessel navigates the Akashi Kaikyo, Bisan Seto and Kurushima Straits, routes which can become heavily congested with fishing nets and small to mid-sized fishing vessels during night-time crossings.

Rolls-Royce installed an array of Intelligent Awareness sensors, thermal imaging cameras and its Light Detection and Ranging (LiDAR) system on the vessel in April 2018, following the 2017 signing of a joint development agreement with MOL.

“We turned night into day,” said Iiro Lindborg, Rolls-Royce, general manager remote & autonomous solutions. “MOL and the Sunflower Gold crew were very satisfied with the results.”

Data obtained from this and other Rolls-Royce Intelligent Awareness (IA) projects will now be fed into the company’s machine learning algorithms to further develop the IA system, with the objective of putting a permanent installation aboard the Sunflower Gold later this year.

“To achieve MOL’s high-level safety policy, Rolls-Royce and our project team had a discussion about how the Rolls-Royce Intelligent Awareness System could help our crew’s navigation duty aboard passenger ferry Sunflower Gold,” said Kenta Arai, director at MOL.

“Our crew always needs to be under intense situational awareness because our ferry runs through an area with heavy marine traffic in the dark and the relative speed is high.”

“We specified the configuration of Intelligent Awareness for our ferry with Rolls-Royce’s advanced sensing and data fusion technology. The trial result was successful and we had good feedback from our crew. We are expecting to get an effective and helpful system for our passenger ferry from the findings and the result of this project.”

In related news, Rolls-Royce has also recently announced the signing of another new agreement, this time with Associated British Ports (ABP) and global towage operator Svitzer, part of the Maersk Group, to develop a range of digitisation and ship intelligence systems for use in port operations.

The tri-party Memorandum of Understanding (MOU) was instigated by ABP and will look for new ways to leverage technology to improve safety and efficiency within work processes at the port.

“As new technologies emerge all the time which offer us exciting, additional capabilities. ABP is always looking to make these new technologies work for us and our customers,” said Mike McCartan, ABP’s director of marine & compliance.

”Where a solution does not yet exist, we will work with companies of the calibre and expertise of Rolls Royce and Svitzer to invent them and bring them into service.”

“A sustainable future for ABP means a constant effort to be greener, safer and more efficient, so that we can continue to play a crucial role in Britain’s economy, industrial infrastructure and local communities.”

NYK joins Japanese autonomous vessel project

NYK, and its Group companies MTL, Keihin Dock Co, and Japan Marine Science (JMS), have announced their participation in a demonstration project being carried out by Japan’s Ministry of Land, Infrastructure, Transportation and Tourism (MLIT) to demonstrate remote operation of an unmanned ship.

By 2025, Japan aims to begin demonstrations for the practical implementation of autonomous vessels, and will leverage research already done by the NYK Group in the sector, including an MLIT-sponsored study on collision risk judgement and the autonomous operation of vessels that is being conducted together with three marine equipment manufacturers in Japan.

NYK says that it applied to participate in MLIT’s new initiative because one of its projects has now entered a demonstration stage prior to implementation.

The shipping company has been working with maritime equipment manufacturers and other partners to develop a manned remote manoeuvring system that can assist the crew on board through the collection, integration and analysis of data from around the ship. This data is used to suggest actions to be followed, which are then approved by remote operators or the personnel on board.

The demonstration phase of the project aims to make use of this system in real life situations, on board a tugboat operated by Wing Maritime Service Corporation (WMS), an NYK Group company, in the latter half of 2019.

New e-navigation and compliance platform from ChartCo

ChartCo has announced the launch of a new e-navigation and compliance platform called OneOcean, incorporating data from its existing environmental management systems to help crew plan the handling of waste and minimise the risk of a faulty discharge, as well as integrating its passage planning and document management applications.

The new product was launched at the SMM exhibition in Hamburg in September, building on the platform developed for the company’s EnviroManager software.

EnviroManager is used to help crews comply with both MARPOL, regional and national regulations, and includes the baseline information for each nation as required by the regulations within the application.

ChartCo is also introducing an upgraded version of its PassageManager software, used by approximately 6,500 vessels worldwide, which integrates all of the key functions and content of the previous version to allow users to access information in one place.

This will allow for additional functionality such as the ability to overlay critical content required for passage planning purposes on Electronic Navigational Charts (ENC) without the user having to switch screens.
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Iridium to support autonomous ship development

Iridium reports that it has signed a Letter of Intent with Rolls-Royce Marine (RRM), currently in the process of being acquired by Kongsberg, to support RRM’s autonomous vessel development programme by integrating L-band satellite services on Iridium’s forthcoming Certus network into the RRM range of Ship Intelligence systems.

“We evaluated partners for our remote and autonomous vessel development programme and Ship Intelligence solutions, Iridium is complementing our connectivity strategy for a number of reasons,” said Kenneth Solberg, technical product manager, ship intelligence, Rolls-Royce Marine.

“Their new interconnected Low Earth Orbit (LEO) satellite network is able to provide global coverage with low latencies for both coastal and ocean going vessels, while at the same time having the robustness of the L-band. And being an actor with truly global coverage, including polar regions, vessel owners will have the confidence that wherever they sail their ship, it will stay connected.”

“The small form-factor antennas and terminals enabled by Iridium Certus have no moving parts, reducing the risk of breakdowns, and are built to withstand the harsh conditions at sea. The journey of enabling Iridium Certus to be compliant with RR remote and autonomous operational requirements sets the stage for an exciting offering that we look forward to begin exploring.”

Certus is planned for commercial availability before the end of 2018, with initial service offering speeds of 352 kbps that will later be upgradable to 704 kbps with a firmware upgrade.

“Enabling the digitalisation of shipping is at the core of our strategy for our maritime business, and we are proud to be part of this opportunity with Rolls-Royce Marine,” said Wouter Deknopper, vice president and general manager, maritime at Iridium.

“Iridium’s constellation is an ideal network to support autonomous vessels, due to its inherent resiliency, mobility and truly global coverage. Supporting RRM’s revolutionary autonomous vessel initiatives is a natural and exciting next step that we are fully equipped to take.”

In related news, Rolls-Royce has also announced an expansion to its ship intelligence programme with the introduction of a Health Management system for ship equipment, which uses ship data combined with machine learning techniques to manage the operational health and performance of all the machinery installed on board.

“Our ambition is to ensure that customers are able to take more informed decisions about maintenance of the most critical components on their vessels, with the help of the latest secure technology,” said Marco Cristoforo Camporeale, Rolls-Royce, VP intelligent asset management – ship intelligence.

“The Health Management system from Rolls-Royce Commercial Marine will help ship operators to extend availability, as there will be less planned off-hire for maintenance. The system will also reduce ownership costs.”

“Another key benefit is that Health Management will increase safety, by detecting anomalies on mission critical components at an earlier stage, helping the crew to take preventative measures to avoid incidents and unplanned off-hire.”

The Health Management technology integrates both performance and health management data, so users can understand how an anomaly in the propulsion system can influence performance in other areas, for instance fuel consumption, and vice-versa.

A secure end-to-end platform collects, transfers, stores, and evaluates the data before encapsulating the information into machine learning models that are relayed back to the ship. End users then have real-time access to information regarding the health of their onboard equipment and systems.

The information is presented on a mobile dashboard on board the ship, with the same information also sent through to a customer portal shore-side, where the company’s support personnel and data scientists can further analyse the data.

The first contract for the service has already been signed, with thrusters, generators and engines on Awilco’s recently-announced newbuild semi-submersible rig to be covered by the system.

Integrated bridges for new Crowley ships

Crowley Maritime Corporation has installed new integrated bridge systems (IBS), designed and delivered in cooperation with Mackay Communications and shipbuilder VT Halter Marine, onboard two vessels, El Coquí and her sister-ship Taino.

El Coquí entered service in late July 2018 as one of the world’s first LNG-fuelled ConRo vessels (combined container and roll-on/roll-off). Taino was launched at VT Halter’s Mississippi shipyard in December 2017, and is currently undergoing final construction and testing in preparation to enter service later in 2018.

The bridge system includes communication and navigation electronic equipment integrated into 13 system consoles, with the console units designed by Mackay using CAD (computer-aided design) to meet Crowley’s specifications and DNV GL’s NAUT-OC standards. The integrated system was outfitted and pre-wired by Mackay’s project department from Houston, Texas.

Additional electronics provided include CCTV for security and asset tracking, IP telephone systems, LAN (local area network), and a UHF radio system.

In related news, Crowley Maritime subsidiary Jensen Maritime reports that it has completed a pilot project with ABS using 3D CAD models to support the class design review process.

The joint project, focused on tug and barge designs, used a 3D model environment that integrates with ABS classification processes, eliminating the requirement to create 2D drawings for design review. The 3D models can be developed using all major CAD modelling software, ABS says.

“Being able to send our 3D models directly to ABS for engineering review saves us time and resources that are currently used to develop 2D drawings,” said Crowley Maritime vice president of engineering services, Jay Edgar.

“ABS’ CAD agnostic approach is an important factor in this process because it allows us to use the modelling program that best fits our needs for a given project.”

Route optimisation system introduced by PC Maritime

PC Maritime has launched a new route optimisation system, developed in line with the latest ECDIS standards to allow exported vessel routes to be reviewed and modified by ship managers, port authorities and relevant shore-based authorities.

The Navmaster Office application is itself written as fully type-approved ECDIS software, minus the live instrument interfacing and hardware. As such it provides facilities for creating and modifying routes and for checking them against chart data for warnings and hazards.

Vessel routes and distances sent in by Masters can be assessed ashore, checked to see if they can be further optimised for distance without compromising safety, and re-issued to vessels.

The system is supplied with official ENC charts, which are updated as required, so that shore-based charts match chart inventories on-board.

Routes exported from ECDIS systems can be imported directly into Navmaster Office via e-mail, disk or memory stick, and analysed, verified and modified before being reimported into the onboard ECDIS.

Where an operator’s ECDIS does not support the new IEC61177 route format, the software allows import via text or Admiralty’s e-Navigator format, although these options provide less route detail.

“ECDIS was always intended to be more than a position-monitoring system. It forms part of the IMO’s e-Navigation strategy, of which a key task is support for ‘standardised and automated reporting’ and data sharing,” said David Edmonds, managing director, PC Maritime.

“Navmaster Office provides a very cost-effective way of engaging with the emerging e-Navigation strategy.”

Kongsberg brings Sensor Fusion from autonomous to manned ships

Kongsberg Maritime is to bring technologies developed for autonomous vessel operation to its Integrated Bridge System (IBS) equipment, introducing a new integrated technology platform designed to support situational awareness through the process of Sensor Fusion, where traditional navigation sensors such as radar and sonar are combined with cameras and lasers.

These additions to its navigation systems will build on work Kongsberg has already done in the development of new autonomous vessels, such as YARA Birkeland.

Sensor Fusion is used to inform the autonomy controller of an unmanned ship, in Kongsberg’s new IBS for crewed vessels it will provide an improved level of situational awareness for bridge crew, by delivering a real-time navigational picture based on data from diverse sensors.

The new generation IBS also adds a new all-speed autopilot, new automatic docking and soft thruster assist functions.

“Designed to meet all IMO and classification societies’ requirements, our new generation IBS is all about the integration,” said Roger Trinterud, senior sales manager, Kongsberg Maritime.

“It adds significant new technologies to deliver safer and more effective navigation and vessel operations, either as a stand-alone solution, or integrated with a full Kongsberg vessel delivery featuring automation, data handling and energy control systems.”

www.km.kongsberg.com

www.mackaymarine.com

www.pcmaritime.com

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Bridge electronics range expanded by JRC/Alphatron

www.jrc.am

JRC/Alphatron Marine have launched two new products for the bridge electronics market, involving their ProLine packages, consisting of a range of navigation equipment, as well as a new ready-to-assemble version of the existing AlphaBridge integrated bridge system. ProLine is designed to provide navigation equipment packages for a variety of intercoastal vessels, workboats, tugboats and fishing vessels ranging from under 500GT up to 10,000GT.

The packages consist of a full range of mandatory or non-mandatory equipment, including the JRC JMA-5200/5300 ProLine radar series, GPS, gyro, autopilot and echo sounder, and will be made available via JRC/Alphatron Marine subsidiaries in Belgium, Curacao, France, Germany, Korea, Malaysia, The Netherlands, Poland, Singapore, Spain and the USA.

The new version of the AlphaBridge meanwhile is now being made available as a ready-to-assemble full component package, comprising all required materials and drawings for shipment and assembly wherever a vessel is under construction. The AlphaBridge was introduced more than ten years ago, offering a modular bridge system based on standard control panels. More than 800 vessels currently have the AlphaBridge installed.

Wilhelmsen joins Singapore drone framework programme

www.wilhelmsen.com

Wilhelmsen Ships Service reports that it has been selected to join a Singaporean government project to develop the future Unmanned Aircraft Systems (UAS) regulatory framework for the city-state, and will receive dedicated funding for its proposed shore-to-ship delivery system as part of the programme. Wilhelmsen Ships Service is one of four companies to have received the funding, following a Call-For-Proposal (CFP) by the Civil Aviation Authority of Singapore (CAAS) and the Ministry of Transport.

The maximum funding available for each project is SGD$1.5 million, or up to 50 per cent of the total project qualified costs. Wilhelmsen believes delivery by UAS has the potential to lower shore-to-ship delivery costs by up to 90 per cent, improving response rate and turnaround time compared to traditional launch boat deliveries, as well as removing safety risks. “This award will be important for us to validate the use case of parcel delivery with drones, but it will also enable us to develop key technological solutions such as sharing of data on precision landing, payload release system, light and reliable private 4G/LTE communications, onshore

Wärtsilä to build €200m Smart Technology Hub

www.wartsila.com

Wärtsilä has announced plans to build a new €200 million Smart Technology Hub in Finland, which will act as a centre of research, product development and production for the company when it opens in 2020.

Wärtsilä says it will invest €30 million in modern testing and production technology for the hub, with the rest of the total outlay consisting of spending on office and factory buildings, logistics and infrastructure. The Hub will be located in Vaskiluoto, Vaasa, and will house all of Wärtsilä’s functions and personnel in central Vaasa from 2020. Logistics and maintenance workshop operations located at the company’s Rüssor facility will also transfer to the Hub at this time.

Wärtsilä is the largest private-sector employer in Vaasa with around 3,000 personnel employed, and the Vaasa unit is Wärtsilä’s largest single location. Wärtsilä has approximately 400 employees in Turku and almost 500 in Helsinki.

“Constant renewal is in Wärtsilä’s DNA,” said Wärtsilä president and CEO, Jaakko Eskola. “This company was established in 1834 as a sawmill in the village of Vartsila in Tohmajärvi, and now it is the global leader in smart technology and complete lifecycle solutions for the marine and energy markets. The Vaasa Smart Technology Hub represents another generational shift for us – it will bring Wärtsilä’s expertise into a whole new realm.”

The company says it will open the Hub up to third party companies and researchers to collaborate on various projects, with the aim of creating a partners’ campus where research and product development take place together with Wärtsilä’s customers and suppliers, start-ups and universities.

“Amazing ideas do not just appear out of nowhere,” said Vesu Ruhimäki, managing director of Wärtsilä Finland Oy. “By bringing together experts from different walks of life – both from business and from the university world – we will build an inspiring environment for new creativity.”

Wärtsilä’s has followed up the launch of its new Hub with the unveiling of a wide-ranging industry initiative it calls ‘An Oceanic Awakening’, which aims to support the evolution of the world’s marine and energy industry into a single digitally connected ecosystem.

The company says that it will begin the project by inviting key ecosystem players from the world’s most strategically important marine cities to join a newly established SEA20 forum for cross-border dialogue and co-creation.

Rotterdam, Hamburg and Helsinki have been announced as the first cities to support the idea, with Wärtsilä aiming to connect 20 of the most influential marine cities by 2020 into a cooperative network that will embrace digitalisation and support the adoption and deployment of best practices.

“We simply cannot afford to wait for the marine and energy industries to evolve at their own pace,” said Mr Eskola.

“The calls for greater efficiency, sustainability, and connectivity are simply too strong to be ignored. Rapid acceleration to benefit the entire sector, as well as society at large, is urgently required, and ‘An Oceanic Awakening’ is our wake-up call to everyone, heralding the beginning of our journey to making the future of shipping and energy a reality.”

Wärtsilä’s vision includes development of innovation hubs at SEA20 cities’ port areas, dedicated to the piloting of developments that may potentially be realised more fully in the same port or elsewhere following a small-scale test phase.

$30 million autonomous vessel construction contract signed

www.kongsberg.com

YARA reports that it has signed a deal with shipyard VARD worth approximately NOK 250 million (US$30 million) to build the autonomous container vessel Yara Birkeland, scheduled to be delivered for launch in early 2020. The new all-electric vessel will initially undertake manned operation before moving to fully autonomous operation by 2022.

In May 2017, YARA and technology company Kongsberg announced a partnership to build the new ship with the aim of replacing 40,000 truck journeys a year, reducing NOx and CO2 emissions and improving road safety in a densely populated urban area.

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The company says it will open the Hub up to third party companies and researchers to collaborate on various projects, with the aim of creating a partners’ campus where research and product development take place together with Wärtsilä’s customers and suppliers, start-ups and universities.

“Amazing ideas do not just appear out of nowhere,” said Vesu Ruhimäki, managing director of Wärtsilä Finland Oy. “By bringing together experts from different walks of life – both from business and from the university world – we will build an inspiring environment for new creativity.”

Wärtsilä’s has followed up the launch of its new Hub with the unveiling of a wide-ranging industry initiative it calls ‘An Oceanic Awakening’, which aims to support the evolution of the world’s marine and energy industry into a single digitally connected ecosystem.

The company says that it will begin the project by inviting key ecosystem players from the world’s most strategically important marine cities to join a newly established SEA20 forum for cross-border dialogue and co-creation.

Rotterdam, Hamburg and Helsinki have been announced as the first cities to support the idea, with Wärtsilä aiming to connect 20 of the most influential marine cities by 2020 into a cooperative network that will embrace digitalisation and support the adoption and deployment of best practices.

“We simply cannot afford to wait for the marine and energy industries to evolve at their own pace,” said Mr Eskola.

“The calls for greater efficiency, sustainability, and connectivity are simply too strong to be ignored. Rapid acceleration to benefit the entire sector, as well as society at large, is urgently required, and ‘An Oceanic Awakening’ is our wake-up call to everyone, heralding the beginning of our journey to making the future of shipping and energy a reality.”

Wärtsilä’s vision includes development of innovation hubs at SEA20 cities’ port areas, dedicated to the piloting of developments that may potentially be realised more fully in the same port or elsewhere following a small-scale test phase.

Norwegian Prime Minister Erna Solberg was present for the contract signing at the shipyard in Brevik, Norway.

Every day, more than 100 diesel truck journeys are needed to transport products from Yara’s Porsgrunn fertilizer plant in Norway to ports in Brevik and Larvik, where the company ships products to customers around the world. With this new autonomous battery-driven container vessel YARA will move those journeys from road to sea.

“A vessel like Yara Birkeland has never been built before, and we rely on teaming up with partners with an entrepreneurial mindset and cutting edge expertise,” said Svein Tore Holsether, president and CEO of YARA.

“VARD combines experience in customised ship building with leading innovation, and will deliver a game-changing vessel which will help us lower our emissions, and contribute to feeding the world while protecting the planet.”

Yara Birkeland is scheduled to be delivered from Vard Braila in Romania in Q1 2020, with the hull to be delivered from Vard Braila in Romania. Kongsberg is responsible for the delivery of technologies to enable remote and autonomous operations, including the sensors and integration work.

“Yara Birkeland represents an important next step for the entire maritime industry, representing a major technological and sustainable advancement. The Norwegian maritime cluster has taken a leading position within technology design, legislation, testing and all other aspects of the development,” said Geir Häøy, CEO of KONGSBERG.

The project has received NOK 133.6 million (US$16 million) in support from the Norwegian government via its ENOVA arm.
Reaching the digital singularity

Digital transformation continues apace as the value of data-derived insight continues to grow. But to truly benefit from the convergence of data with operational technology and business workflows, less is in fact more, writes Stephen MacFarlane, V.Group

Truly competitive maritime businesses which are geared up to accept and embrace constant change – companies with the alacrity and determination to discern ongoing developments in the digital, commercial and environmental sphere and rapidly act upon them – will be the likeliest to prevail from digital transformation. Vigilance and adaptability equate to longevity, while stubborn and wilful ignorance threatens an altogether different outcome.

It would nevertheless be naïve to underestimate profound apprehension as a significant factor in preventing certain firms from embarking upon a digitalisation programme. The market is precarious enough as it is, they reason: and in the light of this volatility, some find it difficult or impossible to balance the prospect of substantial digital investment with the need to remain profitable while such a transformation is being implemented.

The next step along this line of reasoning is a conjoined concern: won’t the introduction of effectively autonomous processes unequivocally lead to job losses?

The fear that man will one day be completely replaced by automation has cast a cautionary shadow over technological progress since the Luddites felt compelled to smash looms in the early 19th century – but generalised anxieties about the future are usually rooted in short-term worries.

For ship owners and shipping companies the profit motive and cost savings are obviously paramount, but if maritime digitalisation is to maximise the potential of analytics, real-time data from across the operational, environmental and financial spheres of a vessel or fleet is crucial.

Where maritime staffing is concerned, meanwhile, digital functionality may well result in job migration over time with the creation of more shore-based, remote roles requiring a broader variety of skill sets. But even with nominally autonomous vessels appearing on the horizon, there is a body of evidence to suggest that crew feel considerably less threatened by digitalisation than casual observers might imagine.

This suggests a tacit understanding that the technology which provides, say, real-time passage/port/weather/tidal information or engine and hull monitoring data exists in the first instance to augment their roles, to make their jobs easier. The data is only there to inform the decision-making process – people still make the decisions while data provides the insight.

If further proof was needed that ship owners and operators are on the clock, stringent regulations such as the EU MRV (Monitoring, Reporting, Verification) CO2 emissions directive and the IMO 2020 Sulphur Cap are only going to accumulate in future, requiring more and more companies to invest in appropriate data collection platforms.

Inevitably, increasing volumes of data will require advanced data storage systems; but Cloud computing solutions are simultaneously far more cost-effective than hardware-based storage tools, infinitely more capacious and considerably more sophisticated in terms of integration with other systems (thereby enhancing visibility and transparency).

Maritime needs be at the top table on developments around low and medium earth orbit satellite systems (LEO/MEO) to maximise the potential of analytics, real time monitoring and joining the global data eco-systems that will evolve.

Smart Data

However, it goes without saying that Big Data doesn’t become Smart Data until owners and operators understand the necessity of data analysis for leveraging crucial insights and planning accordingly.

Less enlightened bodies may regard accumulated data in the same way that they might think of teetering piles of magazine back issues which are crying out for a good car boot sale or bonfire, but the willingness and capacity to respond to real-time data from across the operational, financial and regulatory spectrum of a vessel or fleet if both crew and shore-based personnel can evaluate ship performance and take the relevant steps to offset fuel consumption against vessel speed, with inbuilt route planning flexibility based on changing conditions, so as to achieve optimal energy efficiency.

In addition, smart incentives of this nature will also ensure compliance with emission regulations. The changes that bring these efficiencies aren’t enabled by the data, but what you do with the data. How do you give it value?

Diligently-interpreted analytics from a comprehensive variety of data sets enable a holistic approach to ship management, in which insights relating to parameters which insights relating to parameters including IoT networks, supply chains, personnel, predictive maintenance, financial transactions and global trading conditions can be as readily accessed and acted upon as insights involving, say, cargo and port operations.

This information is readily available today, but a ship owner or manager may need to access a daunting number of different systems or platforms to access it. And because of this diversity, analysing different data-sets against one another is either impossible, or an extensive manual process.

To squeeze every ounce of value and insight from data, all of this information needs to be available from a single interface, for everyone involved in the operation of a vessel or fleet. And while it may be some years before the advent of an all-encompassing ecosystem that can collect and analyse every ounce of data produced across a fleet, we are seeing the advent of more holistic platforms that are already proving aids to informed decision making with a wider scope.

In the foreseeable future, decision-making processes – and consequent industry-wide improvements in safety, environmental consideration and economy-minded efficiencies – will be further assisted if proprietary company systems can share data, and the insights derived therein, with each other.

There is no maritime standard for this sharing yet, no common API, but if it were to come, perhaps the digital transformation singularity would be reached.

Many of the world’s largest shipping concerns and cruise companies are fully committed to the principle of a data-driven maritime culture, so are suitably prepared to benefit from the outcomes – and, if necessary, roll with any intermittent punches in their digital journey.

The number of owners and operators who have yet to make the digital leap is dwindling: if you still find yourself in that camp, the ship hasn’t sailed yet, but the engines have started.

Machines are more likely to support humans in their decision making than take their jobs, for the time being.
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