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Rolls-Royce and Intel have announced a new agreement that will see the companies work together on the further development of autonomous vessel systems, collaborating on designs for intelligent shipping technologies to make commercial shipping safer.

The partnership will leverage Rolls-Royce’s expertise in the shipping sector and Intel’s components and systems engineering capabilities to design new smart, connected and data-centric systems for shipowners, operators, cargo owners and ports, with a focus on safety.

The companies said that their new shipping intelligence systems will have data centre and artificial intelligence capabilities, as well as integrating edge computing to independently manage navigation, obstacle detection and communications.

“We’re delighted to sign this agreement with Intel, and look forward to working together on developing exciting new technologies and products, which will play a big part in enabling the safe operation of autonomous ships,” said Kevin Daffey, Rolls-Royce, director, engineering & technology and ship intelligence.

“This collaboration can help us to support ship owners in the automation of their navigation and operations, reducing the opportunity for human error and allowing crews to focus on more valuable tasks.”

“Simply said, this project would not be possible without the leading-edge technology Intel brings to the table. Together, we’ll blend the best of the best, Intel and Rolls-Royce, to change the world of shipping.”

Hardware
The systems developed will include Intel’s Field Programmable Gate Array (FPGA) technology, to provide a platform for edge operations such as obstacle detection and navigation, as well as Intel Xeon Scalable Processors optimised for High Performance Computing (HPC) to manage complex modelling of ship functions and support learning models for fully autonomous operations.

Rolls-Royce’s Intelligent Awareness System (IA) uses AI-powered sensor fusion and manages decision-making by processing data from lidar, radar, thermal cameras, HD cameras, satellite data and weather forecasts. That data collected by the vessels will be stored using Intel 3D NAND SSDs, acting as a ‘black box’ and securing the information for training and analysis once the ship is docked.

Even compressed, Rolls-Royce notes that the data captured by each vessel can reach up to 1TB per day, or 30TB to 40TB over a month-long voyage, making data storage a critical aspect of the project.
Cyber-attack takes down Port of San Diego IT systems

The Port of San Diego is continuing its recovery from a cyber-attack in late September, which caused major disruption to the agency’s information technology systems.

The Port first received reports of the disruption on September 25th, at which point it mobilised industry experts and local, regional, state and federal partners to minimise the impact of the incident and restore system functionality as soon as possible.

In an update statement issued on September 27th, the Port said that its initial investigations into the attack had determined that ransomware had penetrated its systems, and that it was determining the extent and timing of the incident and the amount of damage to information technology resources, as well as developing a plan for recovery.

According to a further statement on October 4th, systems are now beginning to get closer to normal operations, and the Port continues to welcome vessels.

“The Port of San Diego remains open for business and operations are continuing in the wake of a cybersecurity incident first reported on Tuesday, September 25, 2018,” said Port of San Diego CEO Randa Coniglio.

“Since the incident was first reported, our Port has handled calls from seven cruise ships and 10 cargo ships, processed biweekly payroll, and continued public safety operations as usual.”

“As this incident mainly impacted internal administrative functions, our services to our tenants and stakeholders have been generally uninterrupted, with (some) minor exceptions.”

Stamco begins cyber system roll-out

Piraeus-based Stamco Ship Management reports that it has completed the installation of Naval Dome’s Endpoint maritime cyber defence package onboard a 57,692GT Pure Car and Truck Carrier (PCTC), the first of 55 PCTCs under Stamco management scheduled to be out-fitted with the cyber system.

The vessel, chartered to Wallenius Wilhelmsen Lines, was installed with the system in one hour during a scheduled port stay in Piraeus, Greece, following earlier preparatory work to tailor Endpoint to the vessel’s specific systems and operational profile.

“Our commitment to ship safety underpins the decision to protect our customers’ assets with the Naval Dome solution. We cannot underestimate the operational, financial and safety implications a cyber-related incident – whether by design or by default – would have on operations, especially given the global cargo our ships transport,” said Stamco, in a statement.

“With Naval Dome we are better prepared to prevent any unauthorised access to our ships’ systems. A significant advantage of the Naval Dome Endpoint is that it protects our systems and our crews can go about their day-to-day duties without having to intervene.”

IACS publishes cyber safety recommendations

The International Association of Classification Societies (IACS) has published the first wave in a planned list of twelve recommendations documents on cyber safety, the culmination of a long-term initiative built on cross industry input and support.

IACS initially addressed the subject of software quality with the publication of UR E22 (Unified Requirements for the On Board Use and Application of Programmable Electronic Systems) in 2006, and has developed this new series of recommendations in recognition of the increase in use of onboard cyber systems since that time.

The documents aim to address the need for a more complete understanding of the interplay between ships’ systems, and to introduce protection against events beyond software errors. The recommendations also cover cyber detection capabilities, as well as response and recovery activities.

“These twelve recommendations represent a significant milestone in addressing safety concerns related to cyber issues,” said IACS chairman Jeong-ki Lee, of the Korean Register.

“IACS’ focus on cyber safety reflects our recognition that cyber systems are now as integral a part of a ship’s safety envelope as its structure and machinery, and IACS is committed to providing industry with the necessary tools as part of our wider mission to deliver safer, cleaner, shipping.”

IACS has convened a Joint Working Group (JWG) on cyber systems which is working on identifying best practice and appropriate existing standards in risk and cyber security, and identifying a practical risk approach.

The association hopes that its recommendations will evolve further in the future based on the experience gained from their practical implementation, and says that they may later be amalgamated into a larger document with more consistent language, overlaps removed and common material consolidated.

“The decision to publish these new materials as stand-alone documents as recommendations was made explicitly to give industry stakeholders access to the developing material,” said IACS secretary general, Robert Ashdown.

“IACS continues to make significant efforts to work ever more closely with industry and believes this approach provides the right balance between delivering the detailed guidance that is urgently required while remaining receptive to input from the industry stakeholders via JWG/CS on how they would like to see IACS proceed.”

The final three recommendation documents in the list of twelve are expected to be published before the end of 2018.

www.portsandiego.org

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Maritime digitalisation in the Middle East

What do shipping companies really think about the march of digitalisation in the maritime industry?

Digital Ship spoke to two UAE-based vessel operators, KOTC and Emarat Maritime, to learn their views on the digital evolution of the sector

T he buzz surrounding digitalisation of the maritime industry is relentless, with the providers of every new doodad and doohickey proclaiming their gadget as the saviour of shipping’s future. Some of this may be true – a lot of it undoubtedly isn’t.

In many cases, claims of the power of the state-of-the-art will gain little enthusiasm from shipowners who have to deal with extraordinarily difficult economic conditions while assessing the systems that can provide support when it comes to running a modern, technologically capable fleet.

At a recent UAE Shipowners event in Dubai, hosted by Marlink and the Norwegian Embassy, Digital Ship sat down with two prominent companies in the region to gauge how attitudes towards digitalisation are actually impacting operations, and how these operators are reacting to maritime’s technological march towards the future.

Taking part in the conversation were Ali Shehab, deputy CEO fleet operations at Kuwait Oil Tanker Company (KOTC), which owns 30 VLCCs, 10 product carriers, two LPG carriers and two bunker vessels, as well as Capt Jitendra Misra, managing director at Emarat Maritime, operating six bulk carriers and six tankers.

To begin, Mr Ali was keen to dispel the myth that access to data, enabled by new technologies, is for the first time providing shipping companies’ shore based operations with information about what’s really happening on their ships.

“The subject of Big Data unfortunately is being discussed as if ship operators have no clue what is going on onboard the ships, which is not true. Now they know more about the ship, in a different way,” he told us.

“We had a saying in the past that ‘no news is good news’, that’s actually what used to happen on the ships. When we were sailing before and the means of communication was a telex, and then fax, and let’s say you were trading from the Gulf to Europe or the States, and it’s a journey of maybe 34 to 45 days in each case - it was so quiet. Everyone was doing their job and we wouldn’t hear anything.”

“(Previously) people had to get data in a totally different way. They couldn’t rely on a machine, but would have to get the information themselves from the machines to plot positions on charts, to measure speeds, to check errors on the gyro – all of these things were done manually. This meant that people had hands-on experience.”

The knowledge dynamics of the shipping industry have begun to change since that time as the industry has evolved, and new technologies have begun to alter the traditional processes underpinning vessel operations.

“With time, machines started to develop and everything had to operate more efficiently, and more efficient really means to reduce fuel consumption. We got new engines to make the ships lighter, and new types of steel used in vessel construction, and the use of electrical signals started to take place, and things got more complicat-ed,” said Mr Ali.

“In order to manipulate the electrical signals to operate the equipment you need some ‘brain’, which is the computer. But at that time still it was just on board, with no means of communication with the head office.”

“We were sending data, through e-mail or perhaps through fax or other manual methods, and the guy in the office would wait for the data to come. That it was probably for the previous quarter and was coming to you 15 days later. Now it’s immediate, because of VSAT, and I think it’s only going to grow,” he said.

“We talk about Big Data and Internet of Things, for that the communication capabilities have got to improve. The speed needs to increase, but also the reliability. That’s not something we can tell him.”

Capt Misra has experienced a similar evolution in operations at Emarat Maritime. He believes that the major changes of the ‘digital ship’ era are yet to take hold, and will require further improvements in the bandwidth available to the maritime sector.

“There used to be a time when the ves-sel would burn CDs and hand over the CDs to the agent, and the agent would courier them back to the office. You got the data, you would analyse it, and was probably a week or two, and was coming to you 15 days later. Now it’s immediate, because of VSAT, and I think it’s only going to grow,” he said.

“Today we have systems and processes to collect that data. You can analyse that data manually up to a certain level, and you can show your carbon footprint and show the improvements in your consumption, and your energy efficiency can be defined and described. But is that it? Are we utilising the data to its fullest at the moment? It’s just about compliance, and I believe there’s so much more in that data we are gathering,” Capt Misra notes that large scale data collection is already underway regardless of the analytics capabilities available, due to the emissions regulations that have been introduced by the EU and the IMO.

“The data collection really started to take off with the EU MRV requirements, and now we have the Data Collection System (IMO DCS) and things like that. You have to start building up that data,” he said.

“Today we have systems and processes to collect that data. You can analyse that data manually up to a certain level, and you can show your carbon footprint and show the improvements in your consumption, and your energy efficiency can be defined and described. But is that it? Are we utilising the data to its fullest at the moment? It’s just about compliance, and I believe there’s so much more in that data we are gathering.”

“First of all we ourselves need to under-stand that, then we need to get the tools to give us the results that would allow us to really benefit. This is just the beginning, we haven’t even scratched the surface. There’s definitely value there, but we’re in the early stages of having the tools to do that.”

Mr Ali cautions that such a scenario is still far in the future for the moment, the systems and processes required to make sense of all of this data will be out of the reach of vast swathes of the shipping industry.

“I think we are at the very early stage of making sense of all this data and finding out how useful it is. At the moment it’s just a hard drive filling up, and we’re still talk-ing about what we’re going to do about it. We’re still at the early stage of compre-hending how we can use this information,” he told us.

“It’s about awareness, the power of knowing - if you have information then you can act. It used to be just data, but now you can have alerts. The software you have in place can provide alerts based on certain settings or customisations that allow the data to make sense to the operator, so he can react.”

“Then that creates the question of who is going to monitor all of this. So right now we are at the stage where there is not enough realisation of what all of this data means. Later, when the regulations are asking for this and asking for that, we will need everybody to be on board with this, but it’s a big problem to get this mindset in the industry, to get people to shift to a new reality. It will take a big change in aware-ness for people to understand how valu-able that data is.”

Capt Misra believes that the major changes of the ‘digital ship’ era are yet to take hold, and will require further improvements in the bandwidth available to the maritime sector.

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Managing the future

Nevertheless, despite embracing this vision of a completely integrated future ship and shore, Ali Shebab cautions against moving responsibilities away from the vessel and back to the office.
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too quickly, and ‘dumbing down’ the role of the captain into someone following orders from a computer. Support and remote control need to be sympathetically introduced.

“I come from the old school, maybe the younger generation might think differently. Collecting data and analysing it and using it to optimise operations, that’s one thing, but the gysers on board are still the people there on the spot,” he said.

“If there is any issue, if you have a critical patient on board, it’s a question of who is going to get this done?” Mr Ali went on.

“At the moment, one of Capt Misra’s concerns when it comes to the evolution of technology in the maritime sector is the gap that exists between what shipowners would like to implement, versus the requirements imposed upon them by regulators.

“The regulators are going on and churning out new regulations without actually thinking about how it will be implemented, and what the shipowner is going through at the moment. Will we have the resources to implement these things?” he asked.

“That gap, it has to reduce. Only then will there be some alignment in the requirements and what we are able to do.”

The digital revolution is also making the transition to access a much more tangible risk for modern shipping companies, and Mr Ali cites cyber security as a major concern for the future, an inevitable dilemma created by technological advancement.

“We’re not just talking about the big data scenario, actually we’re talking about the industry now where we are starting to integrate the shore and the ship, and all of the different stakeholders. We have no experience as an industry in making sure that systems are protected, we’re still using lots of USBs and people are downloading information in ways that may not be safe,” he said.

“There’s so much vulnerability within the system, and we have a way to go with this. I think we will see more major incidents improving, more than those that have happened already. What’s going to happen is that the validity of data will be questioned – how sure are you that this data is valid?”

Capt Misra suggests that blockchain technologies may go so well as assisting in that respect, providing an immutable trail of where the data being applied has originated.

“Data validation is perhaps best managed that way, and it’s starting to happen a bit with things like hills of lading, and things like that. But there’s still a long way to go,” he told us.

“Cyber security is going to be a nightmare. Some of these issues started to surface three or four years ago – but there’s still no answer. There are guidelines and other recommendations, but no definitive plan to follow.”

“We’ve done our own internal assessment, and we have at least been able to see a lot of stuff that might not have been noticed before. It requires a mindset change. I think the easiest thing for the industry might be to go back to the good old days of sails – they were cyber secure!”

Intelsat successfully launches final Epic satellite

Intelsat has successfully launched the final satellite in its EpicNG high throughput satellite (HTS) programme, with the Horizons 3e satellite taking off from the Guiana Space Center in Kourou, French Guiana, aboard the Ariane 5 launch vehicle.

The satellite separated from the rocket’s upper stage shortly after lift-off on September 25, and signal acquisition was completed as planned.

Horizons 3e is owned by a joint venture between Intelsat and SKY PerfecTSAT of Japan. Built by Boeing, Horizons 3e will provide C- and Ku-band coverage to Asia and the Pacific Ocean region. The satellite is expected to commence service in the first quarter of 2019, the company said.

“The demand for broadband connectivity has never been greater,” said Stephen Spengler, Intelsat’s chief executive officer.

“The proven and unique performance of the Intelsat EpicNG platform, combined with our global wide-beam satellite fleet, enables us to uniquely fulfill customer demands across a wide range of verticals and applications.”

“Intelsat EpicNG technology has enabled affordable and sustainable broadband connectivity to underserved communities around the world. It has delivered high quality and resilient connectivity to businesses in urban and remote regions, provided airline and cruise passengers with simple, high speed connectivity for their entertainment and business needs, and ensured secure, resilient connectivity for government customers.”

Horizons 3e is the first Intelsat EpicNG satellite to feature a multiprotocol amplifier that enables power portability across all Ku-band VSAT services running on the IntelsatOne Flex platform.

Under the multi-year agreement, Intelsat will provide satellite interconnection and backhaul to APT’s data centres via the IntelsatOne Flex managed service, leveraging the company’s latest generation EpicNG satellites and its global network of wide beam satellites.

APT will be able to customise VSAT packages for its Chinese customers and other potential users in Asia Pacific using this platform alongside a 1-metre antenna, providing its own value-added applications for maritime customers for business operations and crew services.

“To support the growing communications requirements of our maritime customers we needed a high-powered, reliable managed services platform,” said Jason Li, CEO of APT Mobile Satcom.

“IntelsatOne Flex for Maritime provides us with the throughput, flexibility, and redundancy we need to deliver a consistent level of service and availability wherever our customers need it. This enables them to enhance the efficiency of their business operations and to provide fast, reliable Wi-Fi connectivity that improves crew morale and loyalty.”

Iridium and SES partner with Amazon and IBM on Cloud services

Iridium and SES partner with Amazon and IBM on Cloud services

www.iri.com

www.ses.com

Satellite operators Iridium and SES Networks have both announced new partnerships, with tech giants Amazon and IBM respectively, that will see the companies work together to improve access to Cloud services over satellite networks.

Iridium has joined the Amazon Web Services (AWS) Partner Network (APN) and has been collaborating with AWS on the development of Iridium CloudConnect, a satellite-based system for Internet of Things (IoT) applications.

Planned for launch in 2019, this new service will make Iridium IoT services available on Amazon’s existing AWS IoT managed Cloud platform, allowing Iridium customers to take advantage of AWS IoT services.

Iridium partners will also be able to adopt AWS services due to the automated translation of the Iridium network’s proprietary protocols, and industry standard IoT protocols supported by AWS IoT, to and from appropriate devices and databases.

“Iridium CloudConnect will completely change the speed at which a satellite IoT solution can be deployed and will allow existing AWS customers to keep everything the same on the back end, while opening up the opportunity to quickly expand their coverage,” said Iridium CEO Matt Dech.

“This is a major disruption for satellite IoT. Costs will drop, drop to market will speed up, risk will be reduced, and AWS IoT customers that choose Iridium CloudConnect can now enjoy true global connectivity for their solutions.”

IBM and SES Networks have announced their own plans to join the IBM Cloud Direct Link Service Provider Program, to enable connectivity to the IBM Cloud via its satellite network, specifically leveraging the O3b constellation acquired by SES following its purchase of O3b Networks.

“The collaboration with SES Networks can help customers connect to the Cloud globally, especially those in underserved regions of the world.”

O3b’s broadband network is MEF (Metro Ethernet Forum) CE (Carrier Ethernet) 2.0 certified, recognising SES Networks’ ability to offer MEF-compliant service level agreements for attributes such as latency, jitter and throughput.

Connecting to IBM Cloud’s global data centre footprint and services will allow users to build and run a wide range of applications and use cases, such as low-latency Cloud services, optimised IoT and AI systems, and rapid deployment of connectivity services.

“As Cloud services become a cornerstone of the digital era, ubiquitous high-capacity, low-latency connectivity to the Cloud from virtually anywhere in the world is paramount to everything from enterprise productivity and revenue growth to consumer end user satisfaction,” said John-Paul Hemmengway, CEO of SES Networks.

“We are excited to team with IBM Cloud to meet these growing Cloud connectivity demands. With performance that rivals the terrestrial fibre connectivity, our standards-based O3b fleet is designed to make satellite a seamless ‘plug and play’ connectivity option for robust solutions for cloud leaders like IBM Cloud.”
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Wärtsilä has opened a new International Maritime Cyber Centre of Excellence (IMCCE) in Singapore, consisting of a Maritime Cyber Emergency Response Team (MCERT) and a cyber academy, created in conjunction with its new cyber security strategic partner, Templar Executives.

The MCERT is a cyber intelligence and incident support platform which aims to provide international intelligence feeds, advice and support, including real-time assistance to members on cyber-attacks and incidents, alongside a Cyber Security Reporting Portal (CSRP).

"There are three main drivers for the maritime industry to collaborate in improving our cyber resiliency: the vast attack surface that the maritime industry offers to cyber criminals; the inclusion of maritime into the critical national infrastructure of nation states and the pending cyber security regulation by the International Maritime Organisation in 2021," said Mark Milford, vice president, cyber security at Wärtsilä.

"It’s not a coincidence that the IMCCE is based in Singapore - it’s a country that is forward-leaning in cyber development and a very important location in the maritime ecosystem. Despite its home base, the MCERT is available for the entire maritime sector around the world, from single vessels to large shipping and tankers to ports, port authorities and suppliers."

The MCERT is based on a membership model, and offers an Advisory Board membership for those who want to lead the cyber agenda in the industry. The Advisory Board will comprise of key stakeholders from the maritime ecosystem in the areas of shipping, oil & gas, ports and cruise ships.

The Cyber Academy’s courses will cover a range of relevant topics, from cyber security coaching for senior management to cyber awareness for all organisational levels within the maritime industry.

The MCERT will operate from the newly launched Wärtsilä Acceleration Centre facilities in Singapore, which have been purpose-built to promote innovation and collaboration with industry, academia, and local partners in driving development of Singapore’s maritime ecosystem.

**IntelliTug**

The opening of the Centre follows from an agreement signed between the Maritime and Port Authority of Singapore (MPA) and Wärtsilä in April 2018 to collaborate in areas of intelligent vessels, connected smart port operations, cyber-physical security, and digital acceleration with start-ups.

The first project to be co-created at the Wärtsilä Acceleration Centre is the Wärtsilä IntelliTug, which aims to develop a harbour tug with autonomous navigation capabilities in cooperation with MPA and PSA Marine.

"The setup of the Wärtsilä Acceleration Centre in Singapore will support our aim to be the global maritime hub for connectivity, innovation and talent, and add to the vibrancy of our maritime innovation eco-system," said Dr Lam Pin Min, Senior Minister of State, Ministry of Transport and Ministry of Health.

"I am pleased that Wärtsilä and PSA Marine are working together to develop and test the autonomous harbour tug as an initiative under the MPA Living Lab. Such projects will enable us to develop new concepts and capabilities that support more efficient operation and regulation of our future port."

The IntelliTug will be capable of performing a range of routine missions designed to improve tug safety and efficiency, while reducing operator workload and pressure in one of the world’s most demanding harbour environments, the partners said.

"We are always scouting for innovative ideas to enhance our tug masters’ situational awareness so that they can navigate the busy port waters in Singapore more safely. To achieve this objective, we have teamed up with MPA and Wärtsilä to explore and test-bed new technologies, turning ideas into reality," said Peter Chew, managing director of PSA Marine.

The IntelliTug project will involve a combination of technologies, including a new-to-market near-field wideband radar and real-time video analytics, integrated with a lightweight human-centric mission control system to supervise close quarters operations and alert users on collision avoidance using adaptive dynamic route planning capabilities.

Wärtsilä will test-bed the IntelliTug concept in 2019, together with MPA and PSA Marine, on an existing tugboat in Singapore’s actual operational port.

"In contrast to many existing conceptual ideas in the industry, with IntelliTug we are creating a technology that will find a real application in the commercial maritime market. We want to help the industry improve by leveraging the use of automation technologies on ships to boost safety and efficiency, while at the same time augmenting the human’s role within the loop," said Marco Ryan, chief digital officer and executive vice president, Wärtsilä Corporation.

"This solution will empower tug masters by actively assisting the crew in different situations, allowing them to focus on critical tug operations whilst dynamically maintaining safe distances during navigation and preventing potential collisions. It will also give them additional decision-making support and the ability to work with their colleagues ashore via real time data connection."

**Restructuring**

The launch of these new initiatives in Singapore comes ahead of a major corporate restructuring set to take effect at Wärtsilä from the beginning of 2019, with the company having announced that it is to restructure its organisation under two business areas, Wärtsilä Marine Business and Wärtsilä Energy Business.

Wärtsilä says it is making this move to accelerate growth and the implementation of its Smart Marine and Smart Energy strategies, integrating the new-build and service activities in each of the separate areas to focus on complete lifecycle solutions.

"Developing stronger partnerships with our customers and providing them with greater value is essential for reaching our long-term target of profitable growth," said Jaakko Eskola, president and CEO.

"I am confident that this change will ensure more rapid development of innovative solutions and services and a superior customer experience, thereby further strengthening our position as a global leader in lifecycle solutions for the marine and energy markets."

Roger Holm, currently president of Marine Solutions at the company, will lead the Wärtsilä Marine Business. The Wärtsilä Energy Business will be headed by president of Energy Solutions, Marco Winer.

The new Wärtsilä Marine Business will be the larger entity, with approximately 13,100 employees compared with 5,500 employees in the Wärtsilä Energy Business.
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Global marine insurance database concludes pilot

IUMI (International Union of Marine Insurance) reports that it has successfully concluded a large loss database pilot project, a proof of concept exercise aiming to demonstrate how the use of a wider range of data on large losses across the marine insurance industry could benefit the sector.

“For the past year, we have been running a project to understand if it is feasible for IUMI, through its member associations, to collect hull and cargo claims data for large losses. Once collected, we also wanted to understand if it was possible to organise that data in such a way as to deliver meaningful information to marine underwriters,” said Donald Harrell, chair of IUMI’s Facts & Figures committee.

“I am pleased to say that the initial phase of the project has been a success and we now look forward to widening our network of participants and strengthening our database. Although IUMI’s Facts & Figures committee has overseen the collection of marine insurance information for a number of years, it has not to date been involved in the significant collection of global loss data. As part of this recent project a small group of IUMI member associations from Belgium, Germany, Japan, the Netherlands, Sweden and Singapore submitted data relevant to individual hull and cargo losses over US$250,000. The Boston Consulting Group (an IUMI Professional Partner) was engaged as an independent party to clean the raw data, eliminate inconsistencies and identify trends and conclusions.

IUMI says that, in the close to one year that the project has been running, it has proven that member associations are willing and able to deliver data in a usable format and in sufficient quantity to allow meaningful analysis to be performed and trends to emerge. Global trends on specific causes of losses, or geographic clusters, can then be compared against an underwriter’s own book of business and its activities can be benchmarked against global performance.

“The next step in the process is to widen the network of contributors to include as many IUMI member associations as possible. This is likely to take some time as many do not currently request this data from their own national memberships and will need to implement a process to do so,” said Mr Harrell.

“Working with the Boston Consulting Group, we will create a reporting framework for our members to help standardise the data we expect to receive from an ever-widening constituency. We recognise that our database is a work-in-progress, but we are delighted to have proved the concept and built a solid foundation on which to move forward.”

Data is submitted anonymously, and is only collected from national organisations where members have led on a particular claim to avoid overlap. In time, IUMI says that it hopes to create a large and consistent loss database (hull and cargo) with standardised data from member companies in order to analyse major losses with respect to loss severity, frequency, location and cause.

Insurance club integrates software for real time data

In an effort to deliver meaningful information to its members, UK-based Clearwater Tracking has teamed up with DNK (Danske Krigsforsikring for Skib), the Norwegian maritime war risk insurance club, to provide DNK members with a new system for near real-time monitoring of ship positions and breach reporting, integrated into the Clearwater Portal.

The system has been developed jointly by the two parties over the last 18 months to automate war risk insurance reporting requirements, including direct integration into DNK’s back-office functionalities, and provides a platform to enable other digital services for Norwegian fleet owners.

DNK covers some 470 shipping companies against possible damage resulting from war, terrorism, piracy and cyber-attacks performed by intelligence-gathering and other security measures that will be strengthened by this new system. The Clearwater technology allows all reporting to be automated and interfaced directly with the Paris insurance system delivered by Norway’s Noria company. The system uses a Raptor satellite transponder, developed in partnership with Orbcorn, and a software package that includes the Clearwater Portal supported by a 24-hour operations cell that provides crisis management response and maritime intelligence alerts.

Raptor’s data transmission capability will provide access to near real-time vessel positioning and other onboard information. Clearwater and DNK say they have already agreed a programme of installations covering 2,700 vessels.

“The insurance business is witnessing rapid technological progress characterised by digitalisation and the interconnection of systems. Our ambition in DNK is to be among the leaders of this development within marine insurance,” said DNK chief executive Svein Ringbakken.

“The digital tracking system being offered to shipowners has been chosen primarily because it automates time-consuming processes on the insurance side. However, it’s also important that our member companies get the opportunity to use the information in their own operations and that other sensors can be tied in.”

Online LNG terminal portal launched

Witherby Publishing Group has launched a new web portal called LNG Port Info, providing information for each LNG import and export terminal, from the LNG carrier’s perspective, covering more than 135 LNG ports in approximately 45 countries. The portal includes port and country information, data on pre-arrival requirements and information about pilotage and tug use. Also available on LNG Port Info are navigation notes and charts, mooring plans and requirements, as well as berth specifications.

“We recognised there was a need for reliable, up to date information for a visiting LNG carrier to make operations easier and safer,” said Witherby’s chief executive officer, Iain Macnell.

Volaris Group buys Helm Operations

Helm Operations will maintain its own brand and independence with support and resources from Volaris following the acquisition. CEO Ron deBruyne, along with the existing management team, will continue to lead the business.

KR updates container securing software

Classification society Korean Register (KR) has released the latest version of SeaTrust-LS, its container securing strength assessment software, incorporating KR’s new 2018 guidance for container securing assessment and new insights and feedback from lashing makers like SEC Bremen and German Lashing Robert Bock GmbH.

This year KR has revised its guidance for container stowage and lashing by conducting ship motion analysis for different sizes of containerships from 1,000 TEU up to 23,000 TEU. Analysis has included optimising accelerations, nonlinear analysis for calculation of accurate external lashing forces, and CFD (Computational Fluid Dynamics) analysis under various scenarios relating to the application of reasonable wind forces.

The latest version of SeaTrust-LS contains all revisions of this latest guidance, and applies the semi-nonlinear calculation method to consider the twistlock separation effect of external lashing.

Other new features include the calculation of optimal acceleration and wind force, together with 13 route reduction factors enabling containerships to maximise their cargo capacities. Also added is a feature to identify maximum cargo capacity automatically, to assist users to optimise design stack weight; the lashing bridge design and the container stowage arrangement.

SeaTrust-LS incorporates an auto-update feature to make sure users are on the latest software and most recent rules, and a Software Development Kit to facilitate integration with other software packages.
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.

Delight Your Customers
Maritime software provider BASS has announced the launch of the BASSnet Web Portal, designed to provide web-based access to shipping companies looking to monitor their fleets’ pending approvals, alerts, compliance issues, discussions and KPIs while on the move. “Mobility is the byword for software solutions in a globalised industry. Companies are managing fleets in multiple locations worldwide, with needs and issues that call for personalised, immediate action,” said Per Steinar Upsaker, CEO and managing director of BAS.

“With BASSnet Web Portal, we believe we have delivered a compact and reliable system for customers to access useful monitoring and updating features on-the-go. With this portal, customers will save time and increase fleet productivity as they can immediately monitor their vessels from a distance on a computer or mobile device as long as they have access to the internet.”

The Portal’s Home function provides a central access point with an overview of fleet status and performance. With the My Approvals feature, the user can view pending approvals for procurement items and approve risk assessments, as well as issue and reissue work permits. My Notifications and My KPIs highlight outstanding tasks and fleet performance data, and the Compliance feature allows for monitoring of non-compliance issues, including certificates that are overdue or coming due and work and rest hours. In addition, the My Discussions feature allows for instant interaction with BASSnet messages (for discussion-enabled modules).

With Maintenance & Projects, the user can monitor jobs at different status intervals, critical spare inventory and ongoing projects, and view KPI charts on breakdowns and maintenance of equipment. Safety & Quality manages action items related to safety events, audits, inspections and vetting, with KPI charts generated based on data from the BASSnet SAFIR module. The Environment feature provides an overview of the environmental impact caused by various gasses emitted by vessels. The Operations feature generates KPI charts on vessel performance and position, work & rest hours and certificate status, while invoices and requisitions can be generated using the Procurement feature. In addition, the Human Resource feature allows users to manage vessel crew listings and directly access BASSnet HR Manager to make crew sign on/sign off changes.

“The BASSnet Web Portal has been optimised for quick navigation and synchronicity by utilising real-time data taken directly from BASSnet Fleet Management Systems,” said Martin Boermeye, BASS’s VP of research and development. “This makes the portal highly up-to-date and responsive. Customers will gain considerable efficiency from optimising the borderless, instant availability of fleet data.”

ClassNK releases IMO DCS software

Classification society ClassNK has released a new software system for the reporting, monitoring and verification of shipping CO2 emissions in line with the IMO DCS regulations that will come into effect in 2019, an addition to its existing ClassNK MRV Portal.

Fuel consumption data reporting regulations under EU-MRV (European Union - Monitoring, Reporting, Verification) have already taken effect for ships operating in the EU.

These requirements will be supplemented by IMO’s new DCS (Data Collection System) regulations, which will require all vessels operating ships over 5,000GT to collect fuel consumption data and create an annual fuel consumption data report to submit to their flag administration or recognised organisation for verification.

The original ClassNK MRV Portal was launched in 2017 to facilitate compliance with EU MRV regulations, and this has now been updated to support IMO DCS. The software consists of onboard data transmission functions, a shore-based data management system, and functionality for submission of the required annual fuel consumption report.

“The software is also capable of connecting with third-party packages or in-house logbook software, and allows users to submit necessary data reports to ClassNK through the system.”

“We are very excited and proud to offer this major update to our ClassNK MRV Portal software solution,” said Yoshinori Kozeki, corporate officer, director of survey operations division, ClassNK.

“There is no doubt that the added convenience will prove beneficial to users, and the industry will now be able to smoothly respond to the upcoming IMO regulations.”

Clients already signed up for the ClassNK MRV Portal for EU-MRV can use the software for IMO DCS without any additional registration.

In related news, ClassNK has also announced the release of its new PrimeShip-PSC Intelligence software, provided free of charge to assist shipping companies in improving their PSC performance. Based on a database of PSC reports input by ship managers, shipowners and ClassNK, the software can be used to discover trends in the PSC findings reported by each country or port.

That data can then be used to create a tailor-made checklist to make sure that vessels can be prepared in line with those trends.

The software also provides ship management system support functionality, such as reporting on trends of the deficiencies that PSC have pointed out for the managed fleet.

Blockchain-based bunker delivery recorded in Rotterdam

GoodFuels Marine reports that it has successfully completed what it claims is the world’s first bunker delivery and transaction using blockchain technology, in collaboration with Blockchain Labs for Open Collaboration (BLOC).

The delivery was made to a Samskip vessel via a REINPLUS FIWADO bunker barge in Rotterdam on September 7. The transaction was recorded using a blockchain distributed ledger rather than a traditional paper-based bunker delivery note (BDN).

GoodFuels says that use of the blockchain provides end-to-end traceability of the fuel supplied in marine bunkering transactions, from storage, to the barge or jetty, and on to the vessel’s fuel tank. This bunker delivery also represents the first transaction for Maritime Blockchain Labs (MBL), a BLOC initiative supporting blockchain pilot projects that are conducted in collaboration with industry stakeholders, and was the first sustainable low carbon marine fuel delivery as part of the GoodShipping Program, which is part of MBL.

“The GoodShipping Program requires shippers to commit to a reduction in their sea freight CO2 emissions by purchasing sustainable biofuels from traceable sources.”

“For too long shipping has been reliant on paper transaction notes when bunkering, which expose shipowners, shippers and charters to the potential of being misled on the quality and quantity of fuel,” said Dirk Kronemeijer, CEO and founder, GoodFuels Marine.

“GoodFuels, MarineTraffic and the GoodShipping Program are committed to breaking convention - not for the sake of it, but because in this era there is no technological barrier to providing customers better assurance.”

“In addition, for GoodFuels Marine as the world’s first supplier of sustainable ‘drop-in’ marine biofuel, we realise we have to go beyond current standards to ensure traceability. This transaction – the first of many to come – shows the confidence we have in delivering ‘on spec’, sustainable low carbon fuel.”
Oceanstar is an onboard decision support system that enhances vessel navigation in confined waters.

The Oceanstar system shows position and movement within, or relative to, predefined corridors or quaysides in addition to GNSS quality data.

The Oceanstar system is type approved by DNV−GL as a GNSS receiver, speed and distance display measurement equipment (SDME), rate of turn indicator (ROT) and transmitting heading device (THD).

The Oceanstar system can be used standalone, or integrated with a bridge system.

The Oceanstar system facilitates quick decisions and leads to a safer and more efficient operation.

Fugro
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Svitzer harmonises planned maintenance across its fleet

Wan Hai Lines of Taiwan joins INTTRA

Tipco Maritime to install fuel efficiency software

Oldendorff to roll out shaft data monitoring systems

OceanManager adds AI-powered software package

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**SOFTWARE, BIG DATA & IOT**

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Wan Hai Lines of Taiwan joins INTTRA

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Taiwanese shipping company Wan Hai Lines has joined the INTTRA network, a maritime digital trading platform which offers the ability to transact container orders online.

Wan Hai is one of the biggest intra-Asia carriers based on market share, with that sector representing the largest containerised trade in the world. The Taiwan-based company has also expanded to the US, South America and the Middle East in recent years.

By connecting to the INTTRA network the container carrier will be able to use the platform to conduct and manage operations including booking, shipping instructions, eVCM, Track and Trace, Bill of Lading, as well as Ocean Schedules.

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**Tipco Maritime to install fuel efficiency software**

Tipco Maritime has agreed a deal with Wartsila subsidiary Eniram to install the SkyLight 3.0 system on board all of its ships, to improve vessel efficiency through greater access to real time performance data.

SkyLight 3.0 combines traditional noon reports with high-frequency measurements, and analyses the collected data using machine learning and modelling principles.

The system was developed to provide visibility on speed-fuel performance compared to noon reports, without the need for flow meters or other additional equipment.

“Real time access to continuous speed and bunker consumption data is by far the main differentiator,” said Louis Frederic Sachs, director, marine group, Tipco Maritime.

“We do not have to wait for the noon report anymore to have some indication how our tankers are performing. Also, the passage planned route display on the weather map is extremely useful for our marine and operation teams.”

“By having instant access to our fleet route and speed/fuel consumption performance we have strengthened the integration and confidence level between our teams and Masters. Eniram has been a fantastic means to bridge the gap in communication with our crews, allowing us to give them 24/7 assistance with a better view of what they truly face, whenever they request.”

Tipco Maritime owns and operates a fleet of asphalt carriers, offering full in-house ship management to both internal and external clients. Tipco Asphalt manufactures and distributes asphalt products servicing road construction, maintenance and paving industries within the Asia Pacific region.

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**Oldendorff to roll out shaft data monitoring systems**

Oldendorff Carriers is to integrate Shaft Power Meter systems from UK-based Datum Electronics with its existing ship performance monitoring systems across its owned and chartered fleet, in line with the shipping company’s eco fleet strategy.

More than 90 per cent of the Oldendorff owned fleet is now comprised of environmentally friendly vessels, which are implemented by the ship and ship performance monitoring systems aimed at reducing their carbon footprint while also improving operational efficiency.

The addition of shaft power torque meters will form part of this process of optimising fuel consumption and reducing emissions.

The Ship Torsion Meters to be supplied by Datum will provide ongoing power monitoring data to support fuel management and equipment maintenance scheduling programmes, delivering real time measurements of torque, power, thrust and dynamic torque.

For generating reliable data which we can use to optimise voyages and maintain our fleet.

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**OceanManager adds AI-powered software package**

Maritime HSEQ software company OceanManager has announced the launch of its new vesFMS system, which uses data analytics, Artificial Intelligence and operational optimisation by location to improve management of vessel maintenance, supply, procurement, crewing and safety.

The new software is integrated with OceanManager’s mAuditor mobile platform for audits, surveys and inspections, and with its enterprise HSEQ system (mHSEQ) for management of compliance with TMSA, OVID and ISM requirements.

“vesFMS is the first cyber secure fleet management solution that provides all requisite modules for technical management and is a constantly evolving platform that provides all the tools that vessel operators need to improve technical management, planning and execution,” said OceanManager CEO, Rajan Vasudevan.

“Designed for ease of use and low human touchpoints, vesFMS reduces administrative burden while improving quality of data and reporting.”

“We designed vesFMS with market and client feedback for software that delivers value, solves problems and builds trust with a company that has a vision and digital roadmap. We are making technologies work in the maritime sector. This is the best time for companies to take a hard look at their investments and decide whether they want to defend expensive systems or get on board with innovative solutions that future-proof their business.”
“Ocean Guardian provides the full environmental picture for an area by incorporating port information including availability of reception facilities, MAIB/PC certificate requirements, waste stream handling details and basic port contact information.”

Ocean Guardian’s ‘O’ Port Module will allow users to see which ports have reception facilities vetted by TGM, while TGM clients will be able to use the Ocean Guardian web-based portal to store port specific documents.

“Having DNV GL Best Practices available ‘out of the box’ on our platform, clients will have a robust and unique tool that can easily be adapted into modern digital management operations - and as such, with great potential for cost reductions.”

The digital system can be used to report work and rest hours, including monthly overtime, in compliance with MLC 2006 requirements. All information is fully synchronised between ship and office.

“TGM has built up a dry-docking standard covering multiple ship types, and its Best Practices will now be incorporated into VesselMan’s system as templates with digital checklists for every step of the dry-docking process.”

“We are very proud of this partnership. VesselMan provides a full overview of the entire fleet and enables an effective and transparent collaboration between management, customers, yards, suppliers and site-team during the dry-docking process,” said Glenn Edvardsen, CEO of VesselMan.

Leonhardt & Blumberg begins crewing application roll-out

Leonhardt & Blumberg has begun the roll-out of Buss Data’s CrewSTAR applications to selected vessels in its fleet, including both office and vessel modules.

The CrewSTAR application is designed to automate and optimise crew management processes by coordinating all personnel-related activities in one place, providing an analytics module to find the best match for specific tasks.

Leonhardt & Blumberg will be using both the office and vessel modules to manage profiles, STCW-compliant documentation and qualifications for its almost 7,000 crew members.

CrewSTAR is used to carry out crew assessments, plan and organise crew changes, and manage travel activities. It includes integrated payroll management with direct payment options to the seafarer’s bank, as well as training and certification management options.

The application can also be used to report work and rest hours, including monthly overtime, in compliance with MLC 2006 requirements. All information is fully synchronised between ship and office.

“Penguin is building several of its Flex Fighter range of armoured security vessels for anti-piracy operations off the coast of Nigeria, as well as a group of Flex-24X multi-role crew boats for its own chartering operations in Southeast Asia.

The first four engine installations have already been completed, with a further 12 units scheduled for supply and installation over the next few months. The systems are being supplied by Rosyton’s local distributor for the Malaya region, CAN Traders and Service.

“After extensive evaluation, we decided to spec engines into our security boats and crew boats as a well-balanced EFMS solution for our owners,” said Penguin Group managing director, James Tham.

The engines units include Corolis meters for the main engines and generators, providing real-time engine performance data which can be tracked against OPMs, voyage details and operational modes.

“We are seeing a lot of interest in our technology from global builders and operators who want to achieve measurable operational and cost savings for their vessels,” said Sean O’Neill, Rosyton’s regional sales manager.

www.oceanguardian.com

Total Marine Solutions (TMS) and TGM Fleet & Consulting Services (TGM) have signed a memorandum of understanding to support the integration of port specific information into TMS’ Ocean Guardian product.

Developed by TMS, in collaboration with technology company BRENOC, Ocean Guardian provides access to environmental regulations around the world, providing operators with information on the regulations pertaining to a specific location to support compliance.

TGM, which offers maritime waste management and carbon footprint reduction programmes covering more than 100 ports, will work with TMS to include information on vetted port reception facilities around the world within the systems.

“This collaboration comes at a time when a greater emphasis is being placed on marine environment protection and preservation,” said Alexandra Anagnostis, president of Total Marine Solutions.

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Digital data sharing in maritime transport chains

Driving efficiency in the global supply chain depends on our ability to efficiently and effectively share data among stakeholders, and maritime needs to do better in embracing these concepts – particularly at the point where vessels and ports interconnect to move cargo from sea to land, writes Mikael Lind, PortCDM

Since the beginning of civilisation, maritime transport for the exchange of goods has been the backbone of economic prosperity. According to UNCTAD, over 80 per cent of the world’s trade is transported by sea, which is, by far, the most cost-effective way to move raw materials and finished goods around the world. Shipping is the engine of the global economy.

While there have been significant improvements in efficiency, reliability and timeliness in the transport chain for goods shipped by land or by air, shipment by sea has not seen comparable advances in terms of integration and overall automation. In air and land transport, there are effective complementary digital information chains, where all relevant data is shared. However, the maritime supply chain does not yet have an integrated digital information chain supporting the physical supply chain.

In or out transportation of goods, it is now common for both the consignor and the consignee to be able to track goods throughout the transport chain. In this way, involved actors can get data regarding progress and expected time of delivery. It is then possible for them to introduce adjustments in the supply chain, if needed.

However, for goods moving on ships and through ports, there is much less precision, reliability and flexibility in delivery. Typically, many actors remain in the dark for far too long when it comes to the expected timing of future events.

Many factors cause this unfortunate situation. However, fundamentally the reason is that the various actors in the maritime transportation chain are often unaware of the intentions of the progress of, or any revisions or delays to events upon which others in the transport chain depend.

This makes planning and the accurate timing of activities difficult. Inevitably, this leads to delays, inefficient use of resources and consequently a loss of economic benefits for all those involved.

To overcome this, it is paramount that all the actors involved share their related intentions proactively in real-time to facilitate seamless interactions. This now takes place regularly in the non-maritime transport domain.

We acknowledge that it is often easier in those domains because most of the air and land transport chains are managed or influenced by one dominant participant. However, there is no reason why it should not be possible in the maritime transport domain too.

In the maritime transportation chain there are a significant number of different, independent actors. Typically, each of these only shares intentions and similar related data when it advances their self-interest. They wish to preserve what is seen by them as a competitive edge.

However, this only results in local optimisation at best, and a notably sub-optimal result for the full maritime transportation chain. A change of mindset that data sharing is mutually beneficial remains a significant hurdle to overcome.

Reduced turnaround times for carriers is just one of the potential advantages of improved data exchange between ports and vessel operators

Digital data sharing in maritime transport chains depends on our ability to efficiently and effectively share data among stakeholders, and maritime needs to do better in embracing these concepts – particularly at the point where vessels and ports interconnect to move cargo from sea to land.

In support of the IMO vision for e-Navigation, the Port Collaborative Decision Making (PortCDM) concept has been developed as part of the STM project. It is inspired by similar concepts in place in the aviation sector, where very significant improvements in efficiency and in economic benefits have been achieved. As a result, the adoption of PortCDM principles are now also being considered in the rail transport system.

PortCDM is an organisational concept. It is primarily aimed at enabling more predictable timings and operations in sea transport by building upon unified and standardised data exchange protocols among all involved actors.

PortCDM addresses the need to ensure that decision-making is based on actual data about intentions, outcomes, and possible disruptions related to movements and service provision among all those involved in the berth-to-berth maritime transport process so as to gain a high degree of predictability in the planning and execution of all associated operations and activities.

An important driver for the optimisation of port operations is that relevant data is advanced. This enables better planning of berth occupation, availability of equipment, labour resources, as well as stowage planning and the subsequent distribution and delivery arrangements for goods.

PortCDM enables all the actors involved to share the same situational awareness based on input from multiple sources, with up-to-date, spatial-temporal data. This availability of a holistic view enables and fosters collaboration. In turn, this enables efficient and successful coordinated movement and synchronisation, which benefits everyone, not least the end customer or recipient of the goods being transported.

Improving efficiency

The key to new levels of efficiency is to ensure that all the actors in the transport chain, from consignor to consignee, can share and access relevant data, thereby enabling:

- Enhanced predictability of operations related to a port call, based on situational awareness derived from the plans and progress of the actors involved.
- Reduced turnaround and waiting times for carriers (vessels, trains, trucks, etc).
- Just-in-time operations both for carriers and service providers.
- Third-party development of new digital information services based on blending available data exchange standard endorsed by the IMO for e-Navigation, this standard builds upon the port call message format developed to meet the demands of PortCDM. It was validated in 15 European ports in early 2018.

The second important global element is the fact that an international PortCDM Council has been established, providing guidelines for the global governance of PortCDM implemented at regional and local levels.

The third component is the universal framework for PortCDM maturity levels and common decisions on how to measure the success and impact of PortCDM, which has now been developed. This is particularly helpful for ports in deciding their strategy for becoming PortCDM compliant.

PortCDM enables shipping lines to make more efficient port visits. By enhancing coordination with ports, PortCDM allows maritime transport to be an integrated element of door-to-door transportation. In doing so, it enhances process completeness in the maritime transport ecosystem.
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Wherever safety and security matter, we deliver

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

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Thales VesseLINK gives your critical maritime operation global communications coverage that you can depend on at sea, anytime, anywhere. Whether you operate a large fleet or a single vessel, this solution is designed to meet your needs for safety and connectivity through highly reliable, mobile and essential voice, text and web communications. VesseLINK operates using Iridium Certus broadband services over a network of 66 satellites that deliver the lowest latency rates in the industry.
Wärtsilä to outfit UK’s largest marine simulation centre

Wärtsilä reports that it has agreed a deal to provide a package of marine simulators for a new training facility at Solent University’s Warsash School of Maritime Science and Engineering, located in Southampton, UK.

Scheduled to complete in spring 2019, Wärtsilä says this will be the largest marine simulation training centre in the UK, and will be subject to a five-year continuous service agreement.

“We are extremely proud to have been selected to provide the simulators for this very important training facility,” said Joonas Makkonen, vice president, voyage solutions, Wärtsilä Marine Solutions.

“The quality and flexibility of our solutions are the highest on the market, and have been developed to deliver the most realistic and valuable training possible for the marine officers of the future. The digital technology used aligns very closely with Wärtsilä’s Smart Marine initiatives, whereby high levels of digitalisation and connectivity are employed to deliver even greater efficiencies.”

STM project adds Tallinn as sixth shore test centre

The STM (Sea Traffic Management) Validation project has welcomed a sixth shore test centre to its European testing network, with Tallinn VTS joining the project as the first shore centre to come onboard outside of the initial five-strong EU-funded grouping.

“We wanted to join Sea Traffic Management (STM) as soon as possible. The prerequisite for ensuring vessel traffic safety and providing vessel traffic services is to know vessels’ intentions and their exact sailing plans, and this is what the STM route and data exchange services do,” said Are Pehl, head of VTS department, Estonian Maritime Administration.

“If we can predict possible conflicts between vessels early enough, it is much easier to rearrange traffic safely and smoothly. It also allows providing more accurate time of arrival to thus implement a just in time concept, which reduces sailing expenses. For the implementation of unmanned vessels in future, STM-enabled systems is a must to have to provide grounds for smooth and safe vessel traffic.”

Wärtsilä has installed a standalone system for STM functions in Tallinn, with screens displaying the STM-enabled data located in the VTS centre to provide an overview of the traffic situation to all operators on the shift.

“There are three major landmarks in the history of VTS,” said Anders Johansson, Swedish Maritime Administration, and coordinator of the validation of VTS services for the STM Validation project.

“Radar is telling us that something is coming. AIS is telling us who is coming. And STM will tell us the intentions of the ships coming towards us, which will take VTS to a totally new level.”

The five shore centres that have already been involved in the STM testing phase are Gothenburg, Sweden; the Danish national VTS to a totally new level.”

The system provides updates for Admiralty Paper Charts and Publications, AVCS, ADP and e-NP digital products, allowing the user to more effectively manage onboard holdings, and receives updates either by a direct web sync or via a weekly e-mail of required files.

“Using our Challenger software platform ensures that all vessels remain compliant at all times,” said Thomas Gunn, managing director at Poseidon Navigation Services.

“After in-depth discussions with Hapag-Lloyd, we were able to demonstrate the many benefits of our Challenger software and to be able to provide a bespoke digital solution for all their fleet of vessels.”

“Both myself and all the team at Poseidon Navigation Services are delighted to be working alongside the involved parties at Hapag-Lloyd.”

ChartCo to integrate MeteoGroup weather data

ChartCo reports that it has agreed a new partnership with MeteoGroup to deliver its weather routing technology services through the ChartCo e-navigation software platform.

OneOcean can be used to manage route planning, environmental compliance and navigation data, functionality which will be supplemented with MeteoGroup’s services to minimise fuel consumption and emissions by calculating and recalculating optimum routes, and anticipating incoming weather and sea conditions.

“The UK’s Maritime & Coastguard Agency,

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Wärtsilä has installed a standalone system for STM functions in Tallinn, with screens displaying the STM-enabled data located in the VTS centre to provide an overview of the traffic situation to all operators on the shift.

“There are three major landmarks in the history of VTS,” said Anders Johansson, Swedish Maritime Administration, and coordinator of the validation of VTS services for the STM Validation project.

“Radar is telling us that something is coming. AIS is telling us who is coming. And STM will tell us the intentions of the ships coming towards us, which will take VTS to a totally new level.”

The five shore centres that have already been involved in the STM testing phase are Gothenburg, Sweden; the Danish national VTS to a totally new level.”

The system provides updates for Admiralty Paper Charts and Publications, AVCS, ADP and e-NP digital products, allowing the user to more effectively manage onboard holdings, and receives updates either by a direct web sync or via a weekly e-mail of required files.

“Using our Challenger software platform ensures that all vessels remain compliant at all times,” said Thomas Gunn, managing director at Poseidon Navigation Services.

“After in-depth discussions with Hapag-Lloyd, we were able to demonstrate the many benefits of our Challenger software and to be able to provide a bespoke digital solution for all their fleet of vessels.”

“Both myself and all the team at Poseidon Navigation Services are delighted to be working alongside the involved parties at Hapag-Lloyd.”

ChartCo agrees navigation data management deal

Hapag-Lloyd has appointed Poseidon Navigation Services as the supplier of all chart management services for the fleet managed by Hapag-Lloyd Hamburg, as part of a deal that includes Poseidon’s Challenger software platform to manage weekly updates for all Admiralty products, both paper and digital.

ChartCo to integrate MeteoGroup weather data

ChartCo reports that it has agreed a new partnership with MeteoGroup to deliver its weather routing technology services through the ChartCo e-navigation software platform.

OneOcean can be used to manage route planning, environmental compliance and navigation data, functionality which will be supplemented with MeteoGroup’s services to minimise fuel consumption and emissions by calculating and recalculating optimum routes, and anticipating incoming weather and sea conditions.

“MeteoGroup offers a custom software development kit (SDK) based on its SPOS (Ship Performance Optimisation System) product, which will be used to connect to the OneOcean platform. ChartCo will also offer further MeteoGroup services to its customers under the terms of the agreement.

“Our quest was to build a flexible, cost-effective, integrated weather offering suitable for a wide range of vessels,” said Martin Taylor, CEO of ChartCo.

“After in-depth discussions with Hapag-Lloyd, we were able to demonstrate the many benefits of our Challenger software and to be able to provide a bespoke digital solution for all their fleet of vessels.”

“Both myself and all the team at Poseidon Navigation Services are delighted to be working alongside the involved parties at Hapag-Lloyd.”

ChartCo has already been approved for use by a range of maritime authorities, including the UK Maritime & Coastguard Agency (MCA) and the UK Hydrographic Office, and flags including Germany, Panama, Marshall Islands, Singapore and the Isle of Man.

www.meteogroup.com

www.chartco.com
ICS study examines the impact of autonomous shipping

The International Chamber of Shipping (ICS) has released a new study, conducted on its behalf by the Hamburg School of Business Administration (FIBS), examining the potential impact of autonomous ships on the role of seafarers and the global shipping industry.

The research includes an assessment of the risks and opportunities created by digitisation in global logistics chains, as well as through digitalisation and automation of ship operations.

ICS says that the findings suggest that the role of personnel on board and ashore will need to be redefined as the industry evolves, both operationally and legally. Reviewing and understanding how these roles may evolve is also identified in the study as an important aspect to address the impact of autonomous ships on the role of seafarers.

"The two-year IMO regulatory scoping exercise for Maritime Autonomous Surface Ships is now well underway to determine how existing IMO instruments can be leveraged to ensure that autonomous ships are safe, secure, and environmentally sound," said ICS secretary general, Guy Platten.

"This is a complex task, expected to impact several areas under IMO’s purview, and while it is recognised that clear opportunities might arise for the shipping industry which may not exist today, much more work must be done, particularly on the regulatory side and to address concerns about the impact of MASx on seafarers employment overall."''

"Encouragingly, the study indicates that there will be no shortage of jobs for seafarers, especially officers, in the next two decades. While the size of crews may evolve in response to technological changes on board, there may also be considerable additional jobs ashore which require seafaring experience."

"This is data that owners and managers can use for operational planning, forecasting and budget management. Vessel port call history, anchorage times and sea hours data can be used for operational planning, forecasting and budget management."

"This is the advanced technology that mariners have long been awaiting," said Sea Machines’ CEO Michael Johnson.

"Our products allow operators and crew to focus on higher-value tasks while at sea, empowering a commercial vessel to do more with predictable results and lower operational costs."

"Missions such as survey, fishing, dredging, surveillance and offshore energy support can now be executed productively around the clock and in extreme weather conditions, with improved crew safety and efficiency.""
MOL expands ‘smart ship’ projects

Japanese shipping giant Mitsubishi O.S.K. Lines has released details of the latest projects in its ongoing ‘smart ship’ programme, and expanded its existing development in the fields of augmented and virtual reality.

Mitsui O.S.K. Lines (MOL) has announced a range of new projects which aim to improve the efficiency and safety of its vessels by introducing innovative technologies backed by improved data gathering and analysis across its fleet. Among the newly announced projects is the company’s plan to create a data-driven Fleet Optimal Control Unified System (FOCUS), which aims to collect, analyse and apply vessel operational data in the support of safer, more environmentally friendly ocean transport.

As part of the project, which is being conducted in conjunction with Mitsubishi Fkk Shipbuilding and Weathernews, detailed voyage and engine data on actual voyages will be collected from about 150 vessels in operation, and stored in a Cloud-based data platform.

The information collected will be used to develop applications for monitoring of ship operations and propulsion performance analysis, as well as strengthening cooperation between vessels and shore-based facilities, drawing on the specific expertise of the three companies involved in the project.

In particular, MOL says FOCUS will look to develop new Condition Based Maintenance (CBM) capabilities based on actual operational data, applying engine status diagnosis and failure sign diagnosis systems, and will improve “visualisation at sea” by transmitting voice and visual updates from vessels to the shore side.

The company also hopes to improve efficiency through the application of artificial intelligence (AI) technologies, and develop digital twins of its vessels to support ship management processes.

FOCUS is the latest initiative in MOL’s ongoing ISHIN NEXT smart ship programme that was announced in late 2016, a technological offspring of the Senpaku SHIN project launched in 2009 to create a design concept for its next generation of ships.

As part of the ISHIN NEXT project, and in addition to its work on FOCUS, MOL is also moving ahead with plans to introduce Virtual Reality (VR) and Augmented Reality (AR) technologies to support vessel operations, to assist crews both in training and in supporting their decision making processes on board.

The company says that it intends to install an “experimental” version of an augmented reality system that has been under development since ISHIN NEXT was launched, in collaboration with Furuno Electric Co, on a very large crude carrier (VLCC), with plans to also subsequently expand to an installation onboard a car carrier as well.

The VLCC to be installed is the new-building Suzukasen, delivered on October 12, which will run a series of demonstration tests aimed at verifying the performance of the AR system before it is rolled out to additional vessels.

The AR system presents data from the Automatic Identification System (AIS), such as other ships sailing around the vessel and landmarks like buoys at sea, on tablets and other displays. Images of the landscape taken from the bridge can also be shown on the same tablets, which will overlap with the AR data to provide visual support to crew members operating ships and keeping watch during voyages.

The AR display screen has recently been upgraded based on feedback from an initial trial that started in March of this year onboard a next-generation FLEXIE car carrier, the Behuga Ace. The screen allows the officer on watch to quickly check voyage information such as the speed of other vessels, the closest approach time, and the closest approach distance.

Virtual Reality

Moving from augmented reality to virtual reality, MOL also reports that it has added two new training programmes to its VR-powered mariner safety education goggles, covering ‘cargo falling from cranes’ and ‘response to onboard fires’.

The goggles, which use VR technology created by Tsumiki Seisaku Co, allow seafarers to visualise and virtually experience onboard accidents that are depicted with computer graphics, to show how incidents can occur due to unsafe behaviour and to allow accidents to be reviewed from different points of view.

The content of the training programmes also specifies safety measures to be taken to prevent the accident occurring and to increase seafarers’ awareness of how problems can be solved in a safe manner.

Since the initial introduction of the VR training system in 2017, MOL says it has introduced initial VR training sessions to its ship management companies and vessels across the world. These latest additions to the VR training programme were introduced based on the results of a survey on occupational accidents.

MOL says it will continue to develop additional VR content for its onboard education programs, with the aim of maximising safety awareness among seafarers and achieving the goal of zero work related accidents.

Container tracking

While MOL continues with its efforts to enhance the operational performance of its seafarers through these new technologies, the company is also looking to improve the efficiency of its cargo, having recently announced the successful completion of a pilot project trialling a new container tracking system to keep track of boxes both on land and at sea.

MOL group company MOL Consolidation Service reported the successful completion of the trial involving the transport of containers equipped with a remote container tracking management device on railway routes connecting China and Europe.

This device, mounted inside the container, makes it possible to monitor cargo in transport and report on its location using various equipment such as GPS, a temperature gauge, and an optical sensor, allowing data to be transmitted to stakeholders through e-mail or via a smartphone application.

Users can receive information on location and route, temperature and humidity inside the container, and the vibrations experienced by the cargo in transit. Unauthorized opening and closing of the container during transport will also be reported, using the optical sensor.

The small 130g device can be attached inside the container without specialist knowledge being required, and has a battery life of 70 days making it suitable for long-distance transport.

MOL conducted its trials of the system on three railway routes from central and south China to Europe (Ningbo-Poland/Ningbo-Germany/Shenzhen-Poland), in cooperation with a Chinese railway company and its customers, and says that the devices successfully transmitted periodic updates to the MCS server on the cargo position and conditions on all three routes, from receipt to final destination.

The company now plans to begin a more widespread installation of the devices on containers based on customer requests, where there is a demand for monitoring data on cargo status.
I


t is impossible to know how differ-

cent uncertainties facing the contain-
er industry will come together over
the next 25 years. However, combin-
ing elements in logical ways and deduc-
ing the implications can be a useful thought
exercise.

We have developed four such futures:
digital reinvention; digital disruption;
third wave of globalisation; 'peak contain-
er' and consolidation. These illustrate the
wide range of outcomes that could come to
pass in the container transport industry.

To construct the scenarios, we had to
make some judgement calls on how certain
trends and discontinuities combine togeth-
er. These four futures certainly are not the
only ones that could transpire; indeed, the
future may instead entail some combina-
tion of these or include further elements
that could not be predicted.

**Digital Reinvention**

It’s 2043 and the container transport indus-
try’s traditional incumbents are even
stronger. Digital, data, and analytics have
indeed become the fundamental driver of
value creation. Players with significant
asset footprints – particularly when cou-
pled with vertical integration – lead the
way, with proprietary data that allows
them to out-compete any potential disrup-
tive entrant.

Data and technologies like blockchain
are used in creative ways to ensure relia-
bility across the value chain, real-time
transparency on cargo flows, and seamless
integration with customs and customers’
supply chain systems. That doesn’t mean
the operating systems and solutions are
always developed in-house; many ‘digital-
ly native’ suppliers of software and analyti-
cal solutions thrive.

The integration of digital, data, and ana-
lytics into container transport operations is
sped up through vertically integrated busi-
ness models. The coordination challenge
across a mosaic of players proves to be too
challenging in this timeframe – too many
operating systems, too many applications
that can’t talk to each other, too many IT
infrastructures.

Only by working together are the freight
forwarders, container lines, and terminal
operators better able to develop an ecosys-
tem of digital tools that “talk” to each other.
Many end up merging. Customers love it
and align closely with their preferred con-
tainer transport provider.

This vertical integration means there are
approximately five major players, as well as
a large number of smaller compa-

dies servicing geographies that haven’t
caught the attention of the majors.

Technology has also helped better opti-
mise the networks within these large, ver-
tically integrated players. As such,

economies of scale in ship sizes remain
somewhat relevant, but the value of net-
work flexibility – enabled by smaller ships –
has increased.

Terminal investments can be matched
to the expected changes in the fleet, and
’smart’ stowage as well as crane operations
have been perfected to minimise the cost
and time of moving a container from the
ship onto the fleet of autonomous trucks
that pull up on-demand. Many terminal
yards have been converted into e-com-
merce logistics zones in the middle of
prime urban areas. Container alliances dis-
appear, having lost their appeal as players
consolidate.

The digital advances have unlocked
many efficiencies in the supply chain, help-
ing spur further trade growth. But this
growth is offset by the effects of modest
near-shoring and occasional protectionist
policies, sparked by advances in manufac-
turing automation.

Containerisation increases on the mar-
gins, mostly due to faster-growing trades
in highly containerised goods. And while
China manages its transition to a services-
based economy, India doesn’t achieve
‘breakout’ growth. Add it all up and trade
growth has essentially held to 1.5% glob-
al GDP growth since 2018.

For the integrated players that lead this
industry, returns are quite good on aver-
age. Having effectively seen off the chal-
lenge from ‘digital disruption’ by embrac-
ing digital, data, and analytics, they now
deliver extremely reliable and transparent
service to their customers.

They have also established a different
competitive dynamic, competing on value
delivery. Their offerings are as attractive
as any other.

The existence of the digital platform
may succeed in capturing a large share of
container ship traffic. In effect, the
container ship can plug in and connect
immediately to customers. In effect, the
'Uber-isation' of container transport travel-
ing can happen in many different
ways. For example, some of today’s ‘e-
freight forwarding’ or aggregator start-ups
may succeed in capturing a large share of
returns for ship owners and operators are
dramatically lower. However, the real-time matching of sup-
ply and demand in the liner segment also
means smaller ships can carve out a more
profitable niche. Container terminal opera-
tors celebrate as the rush into larger and
larger ships is blunted. Customers begin
to value flexibility and adaptiveness; the cost
of seaborne transport might be slightly
more expensive than before, but goods are
delivered faster and more reliably.

Traditional freight forwarding does its
best to adapt. Indeed, the further the digi-

tal platform extends into inland logistics, including transporting rail and truck, the less value-added part of the supply chain that forwarders can provide.

The promise of digitisation and blockchain in the flow of customs forms and other documentation has been fully realised, and there is little need for manual intervention to ensure rapid processing at the border or in player-to-player hand-offs. Some innovative forwarders succeed in digitising their business models to 'go digitally native' as well.

Therefore, there is a modest uptick in trade growth to 1.5-2x global GDP growth, which is neither reinforced nor diminished by macroeconomic factors like China and India's growth patterns. In sum, the container transport value chain has become much more efficient, but the value of this revolution has been captured by customers and 'digitally native' new entrants.

### Third Wave of Globalisation

Perhaps the demand side of the industry – global trade – is not condemned to lower growth after all. Third Wave of Globalisation posits a return to the 'go-go' years of the 1990s and early 2000s, when trade growth significantly outpaced global economic growth.

In this instance, India achieves 'break-out' growth greater than 10 per cent annually, and supply chains, which had already been migrating from China to other parts of Asia, reorient again to tap into India's abundant pool of labour – a tidal wave of one billion workers (again) rapidly reorienting to tap into India's potential and supply chains, which had already been moving towards India's and the region's economic growth.

The return of fast trade growth has ensured fragmentation remains the norm: consolidation loses its appeal as most players focus on growth investing in new or existing business. Liners in particular push towards larger and larger ships, including some of 30,000 TEUs or more, causing further investment anguish among ports and terminals.

The continued fragmentation paired with larger ships means alliances among the lines remain useful. Vertical integration across freight forwarding, terminals, and container shipping is considered a distraction as all players 'go for growth'.

For the freight forwarders, much of the trepidation about digital disruption is muted. Digital proves to be complementary to their services; the freight forwarders themselves digitise and cement their place as central players in the container logistics network.

Many new small and medium sized exporters emerge and require freight forwarding services to reach overseas customers. Therefore, freight forwarders continue to earn a satisfactory return, while the container lines and terminal operators see returns similar to the last 25 years.

**Peak Container**

"Dreadful": that was the word uttered by a container terminals group CEO during a results presentation in 2023.

At some point in the late 2020s, trade had gone into reverse. Geopolitical conflict, trade disputes, growing interest in local products, and a complete revolution in manufacturing technologies had spurred a major shift towards the re-shoring of manufacturing.

3D printing had finally come of age, and was starting to be used for the manufacture of entire products, not just individual pieces – a full aircraft engine, say, instead of just one nozzle. Advanced robotics had become cheap and effective, encouraging more near-shoring and quickly displacing millions of workers who couldn't re-train fast enough.

Mass technological unemployment was the real question of the day. Dislocation and resentment fed populist, nationalist, and revisionist political movements; trade wars were already a frequent occurrence, and geopolitical conflict didn't seem far away.

"Peak container" – the cresting and eventual decline of containerised trade – was at hand. Everyone in the container transport industry knew it.

Liners that had over-extended themselves were overwhelmed by rates that did not cover their operating costs. Those in a stronger position quickly focused on consolidation as a survival strategy, and 3-4 major leading liners eventually formed.

Terminals and freight forwarders suffered as well but had other advantages: traditional specialist trades for the unknown in the face of a range of scenarios?

### Conclusion

It is not hard to imagine four different world scenarios for the container transport industry over the next 25 years.

The first two – Digital Reinvention and Digital Disruption – assume digital, data, and analytics will be the most important industry trend and the real question is who leads the transformation: incumbents or new entrants?

The latter two – Third Wave of Globalisation and Global Trade Consolidation – assume digital is important but not a fundamental shift, and instead the real question is the outlook for trade growth.

In truth, the world to 2043 will probably adopt some characteristics of all of these scenarios or surprise us with something entirely unexpected. The question then for industry players is, how can one prepare for these unknowns if you live in one of the face of a range of scenarios?

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**Frank Coles exits Waltsli for Wallen**

Former Transas CEO Frank Coles has agreed to join Hong Kong-headquartered shipmanagement group Wallen as its new chief executive officer, leaving his role at the head of the Transas organisation less than six months after announcing the sale of that business to Wartsila for €210 million.

Mr Coles had been working as the head of the Transas division within Wartsila Voyage Solutions since the acquisition was completed in May, having spent three years with the navigation systems company.

He previously spent close to four years at Inmarsat, the majority of which was in the position of president of maritime, and more than three years as CEO of Global Marine Wireless, which was acquired by Inmarsat during Mr Coles’ time with the satellite operator.

The opportunity to lead and help grow a prestigious and diversified company like Wallen was something I could not pass up,” Mr Coles said.

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**Thales invests in marine simulator development**

Thales Canada reports that it is investing more than $315,000 in a new research project with Virtual Marine of Newfoundland, to improve Virtual Marine's embedded ship simulation systems.

The project will result in the creation of a ship simulator that will be used to support advanced platform testing and integration needs for a variety of programs, designed to be flexible enough to allow for current and new ship types and equipment configurations and for use across multiple vessels and projects.

"The Ship Simulator Research project will result in a more innovative and technologically advanced ship simulator software product that will build on existing simulation technologies to enhance integration support and training options for prime defence integrators," said Randy Billard, chief technical officer and executive vice president, Virtual Marine.

"It will be tested by users who understand the need to properly de-risk systems for safe and full operational integration. This project will further position Virtual Marine as a leading and innovative provider of marine simulation solutions.”

The 12-month, multi-phase research project will include the participation of a graduate student from Memorial University, as well as collaborative research leveraging Thales’ software engineering expertise and capabilities in Big Data, connectivity, artificial intelligence and cybersecurity to upgrade baseline technology.

"This investment in R&D and supplier development reflects Thales’ deep commitment to innovation and digital transformation in Canada," said Jamie Turcotte, vice president, services, Thales Canada.

"As one of its first supplier development activities under AJIS, Thales is excited by the potential for Virtual Marine’s advanced ship simulator capabilities that will help ensure that Canada’s Arctic and Offshore and Joint Support Ships are mission ready where and when they are needed.”

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The SUPERTRACK is the perfect solution for ships looking for VSAT communication network with broadband speed at sea. Through out 3-axis stabilization solution, you may enjoy all the functions of VSAT to stay in touch with your network via high speed access to the internet, email, multiple VoIP phones and more.
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