



THE DIGITAL SURGE

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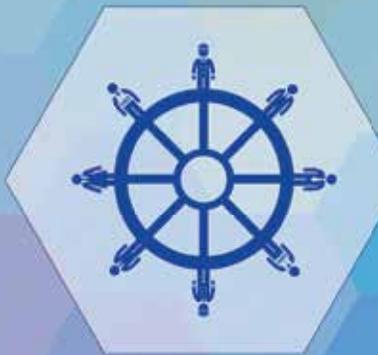


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publisher



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the next wave

Digitalisation is key to taking the maritime industry to the next level.

Digitalisation: It's the buzzword on everyone's lips, and its role in transforming the maritime industry cannot be emphasised enough.

At INTTRA's Asia Technology Summit 2017, Kenneth Lim, Maritime and Port Authority of Singapore's (MPA) CTO/Director of Research & Technology and Industry Development, said: "The wave of transformation will come, and with MPA's collaborative approach to working with the industry, we believe Maritime Singapore will stand a good chance to benefit from digitalisation."

Indeed, that's the message echoed by many of our interviewees in this issue of *Singapore Nautilus*. Our Feature story on the Sea Transport Industry Transformation Map highlights Tuas Port as an example of how automated systems will be scaled up. From digitalising documentation to integrating supply

chain facilities and even advocating the use of e-certification, the adoption of emerging technologies will pervade the entire ecosystem.

Our guest Personality, Soren Skou, CEO of Maersk, the world's largest container shipping company, is an ardent advocate of digitalisation as he sees it as a way to lower the barriers to trade. And he believes Maersk's partnerships with computer giants like IBM and Microsoft make it possible for people and businesses all over the world to participate in international trade.

The flip side of this lucrative coin is that cyber attacks are also an emerging area of concern. Masafumi Kuroki, Executive Director of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against ships in Asia, in his Commentary, stresses the importance of raising awareness of the possible and potential threats facing the industry.

We hope you will enjoy reading this issue of *Singapore Nautilus*, and come away with a clearer picture of the rewards and challenges of embarking on the digitalisation journey.



**CAITLIN FUA
EXECUTIVE EDITOR**



OOCL TAKES TOP HONOURS FROM SEAA FOR GREEN EFFORTS

OOCL was presented with the Outstanding Singapore Environmental Achievement Award at last year's Singapore Environmental Achievement Awards (SEAA) ceremony, held at the Singapore Environment Council's Conference Day event on Oct 13.

The SEAA is one of the oldest, most prestigious environmental awards in Singapore and the region. Launched in 1997, the programme has seen 80 companies excel in environmental stewardship and clinch these awards since its inception.

It also recognises the leadership and innovation from their sustainability work, and how they may encourage others to adopt a more proactive approach towards managing the environment.

OOCL was also the winner in the SEC MPA SEAA (Maritime) Category, an award sponsored by the Maritime and Port Authority of Singapore (MPA), which recognises maritime companies that have in place strong environmental management policies, with a focus on industry-leading initiatives and continuous innovation in their sustainability work.



ABOVE, FROM LEFT Ms Isabella Loh, Chairman of the Singapore Environment Council; Mr. P. C. Wu, Region Group Head of Taiwan and ASEAN Group of OOCL; Mr Masagos Zulkifli, Singapore's Minister for the Environment and Water Resources; and Ms Yvonne Chan, Director (Corporate Development) and Chief Financial Officer at MPA, at the presentation of the SEAA award.

SIGNING OF MOU BETWEEN MPA AND SHELL SHIPPING & MARITIME



The Maritime and Port Authority of Singapore (MPA) and Shell Eastern Trading (PTE) LTD signed a Memorandum of Understanding (MOU) to cooperate in the research and development, and test-bedding of projects within the maritime industry.

The MOU signing ceremony took place during the Singapore Maritime Institute Forum 2017 – an annual event held to foster closer collaboration between industry players, research institutions and solution providers – and was witnessed by Dr Lam Pin Min, Senior Minister of State for Health and Transport.

Under the MOU, both parties will collaborate on the following key areas:

- The development of innovative solutions to reduce emissions in the port

- The exploration of greater use of automation in the port
- To support study and development of digitalisation efforts, including electronic data exchanges among various stakeholders, to enhance the safety, efficiency and security of maritime communication.

"Singapore will continue to invest in future capabilities to build up a strong maritime cluster to generate good employment opportunities and stay ahead of the competition," said Mr Andrew Tan, Chief Executive of MPA.

"We are pleased to work with industry partners such as Shell to drive the digital transformation of the maritime industry in Singapore, in the areas of electronic data interchange, automation, intelligent systems and cleaner energy."

19TH MEETING OF THE AIDS TO NAVIGATION FUND COMMITTEE

The Maritime and Port Authority of Singapore (MPA) hosted the 19th meeting of the Aids to Navigation Fund (ANF) Committee on Sept 14 and 15 last year.

The ANF was established to facilitate financial contributions for the provision and maintenance of critical aids to navigation in the Straits of Malacca and Singapore (SOMS). These aids are important for the safety of navigation in waterways such as the SOMS, which is, and will continue to be, one of the most important shipping lanes in the world.

Indonesia, Malaysia and Singapore take turns to hold

the chairmanship of the ANF Committee. Malaysia will be taking over the chairmanship in 2018 from Singapore, which has chaired the Committee since 2013.

Since its inception in 2007, contributions to the ANF have hit over US\$23 million (about S\$30 million). Among the contributors are China, India, Japan, South Korea, the Kingdom of Saudi Arabia, United Arab Emirates, The Nippon Foundation, the International Foundation for Aids to Navigation, the International Maritime Organization, the Malacca Strait Council, and Witherby Publishing Group.

BUILDING GLOBAL LEADERSHIP FROM SINGAPORE

MPA Academy (MPAA) – the training arm of the Maritime and Port Authority of Singapore (MPA) – and Nanyang Technological University jointly organised the 7th Maritime Public Leaders' Programme (MPLP), which was held from Oct 9 to 13 last year.

Since its launch in 2011, the programme has trained more than 130 senior maritime officials from over 60 countries.

The MPLP, one of three flagship programmes organised by MPAA, is an executive programme specially designed for high-level senior executives from maritime administrations around the world.

It covers a wide spectrum of industry-relevant topics, such as port planning and management, shipping economics and finance, maritime law and security, public leadership, and governance.

Participants attended sessions by industry experts and prominent maritime leaders, and visited key maritime facilities such as PSA International and Jurong Port terminals. They also had the opportunity to network with key industry players.

The programme welcomed 20 distinguished first-time participants from various regions, including Africa, Asia, Europe, Latin America and the Middle East.

INDONESIA, MALAYSIA AND SINGAPORE SIGN MOU AT CO-OPERATION FORUM

A Memorandum of Understanding (MOU) was signed by Indonesia, Malaysia and Singapore at the 10th Co-operation Forum held on Oct 2 and 3 last year in Kota Kinabalu, Malaysia.

The Forum, which provides an avenue for littoral states and other stakeholders of the Straits of Malacca and Singapore (SOMS) to exchange views on issues of common interest in the Straits, is one of three components of the Co-operative Mechanism on Safety of Navigation and Environmental Protection in the SOMS.

The MOU signed was for the implementation of Phase Two of the Joint Hydrographic Survey of the SOMS by the three littoral states – Indonesia, Malaysia and Singapore – and the Malacca Strait Council of Japan.

Phase Two is a continuation from Phase One, which focused on five depth-critical areas of the Traffic Separation Scheme (TSS) in the SOMS. Phase Two will cover the remaining areas of the SOMS TSS, which are shallower than 30m in depth.

"The Joint Hydrographic Survey for the SOMS will allow navigational charts to be updated with the latest nautical information, and help improve navigational safety in one of the world's most well-used waterways" said Mr Andrew Tan, Chief Executive of the Maritime and Port Authority of Singapore.

"It reflects the joint efforts of the three littoral states in promoting safety of navigation in the Straits."



INAUGURAL ROUND-TABLE TO DISCUSS MARINE BIOFUELS FOR SHIPPING



Last September, the Maritime and Port Authority of Singapore (MPA), BHP and GoodFuels Marine organised a round-table to drive discussions on the use of biofuels as a sustainable alternative fuel for the future of shipping.

This inaugural closed-door round-table event brought together shipowners of different vessel types to network, share insights into the use of biofuels to meet increasingly stringent environmental regulations, and explore areas of collaboration.

Staff from the new Maritime Energy and Sustainable Development Centre of Excellence by Nanyang Technological University were also present to seek collaborative partnerships with shipowners to deepen Singapore's capabilities on the maritime environment and bio-energy front.

Among the topics discussed included barriers to the use of biofuels and how these can be addressed.

Mr Tan Suan Jow, Director (Sustainability Office) of MPA, also shared about ongoing efforts towards a clean, green and community-oriented port as MPA prepares for Singapore's future port.

SINGAPORE GEARS UP TO BE A KEY PLAYER IN MARITIME ARBITRATION

Significant developments for Singapore arbitration in the maritime sector include the launch of the Singapore Ship Sale Form (SSF) by the Singapore Maritime Foundation (SMF) in January 2011.

One of its objectives was to refresh and update existing sale forms (in particular the Norwegian Sale Form 1993 or NSF93) to cater for new developments over the years, current case law, and regulations and practices in the sale and purchase transactions of second-hand tonnage.

The SSF is also a necessary alternative sale form tailored to the needs of the Asian

maritime community. SMF has also released Chinese and Japanese guidance versions of the form.

In addition, the SSF's arbitration and governing law clause (clause 15) provides for a choice between Singapore law and English law as the governing law of the contract, and names Singapore as the default seat of arbitration.

The SSF's launch led to an updated version of the Norwegian Safe Form in 2012 (NSF2012). Additionally, the Baltic and International Maritime Council has named Singapore as one of the three official seats of arbitration (alongside London and New York City).

COOPERATION TO ENHANCE REGIONAL CAPACITY IN COMBATING PIRACY IN ASIA

From Sept 27 to Oct 6 last year, the Ministry of Foreign Affairs of Japan and the Maritime and Port Authority of Singapore, in cooperation with the ReCAAP Information Sharing Centre, jointly hosted the inaugural Capacity Building

Executive Programme in Singapore on combating piracy and armed robbery against ships in Asia.

The programme enhanced information sharing and strengthened cooperation among various ASEAN enforcement authorities.

RIGHT The speakers and participants of the inaugural Capacity Building Executive Programme were largely senior-level personnel with 10 to 15 years of experience or more in maritime enforcement. They included ReCAAP Contracting Parties from ASEAN (Cambodia, Brunei, Laos, Myanmar, the Philippines, Singapore, Thailand and Vietnam), along with representatives from Indonesia and Malaysia as dialogue partners.



SERVICE ENHANCEMENTS AND TRAINING FOR SINGAPORE-REGISTERED SHIPS AND COMPANIES

In November 2017, the Maritime and Port Authority of Singapore (MPA) announced service enhancements that will benefit more than 4,600 ships flying the Singapore flag. Forty-three Singapore-incorporated maritime companies will also receive training and other benefits.

"Digitalisation and new technologies such as blockchain and smart drones are changing the way we work. To stay ahead, the Singapore Registry of Ships [SRS] needs to embrace these technologies to offer value-added services to its customers," said Mr Andrew Tan, Chief Executive of MPA.

New 24/7 hotline for urgent assistance after hours

The 24/7 hotline was introduced, following feedback from the industry that this would be useful for them to contact MPA officers after office hours for urgent cases relating to crewing, registry and ships' technical matters.

The use of electronic certificates

MPA will also issue e-certificates directly to Singapore-registered ships. The use of e-certs over traditional hard copies will save time and cost, allow for instantaneous transmission of certificates to ships, and offer better protection against fraud.

Expansion of Marinet online service

MPA has also expanded the Marinet to include applications for ship registration and the appointments of managers, as well as one for various documents issued by SRS.

Leveraging new tech for ship surveys

Methods of remote inspection such as aerial drones armed with cameras and ship-inspecting robots are safer, and time- and cost-saving for shipowners.

Promoting sustainable shipping

A Memorandum of Understanding has been signed between MPA and Global Compact Network Singapore (GCNS) to provide SGX-listed, Singapore-incorporated maritime companies with training on sustainability reporting; organise a CEO/CFO roundtable, whose discussion will be compiled into the Maritime Sustainability/Integrated Reporting Guidelines; and launch an MPA-sponsored award in the GCNS Singapore Apex Corporate Sustainability Awards.



INTERNATIONAL EFFORTS TO REDUCE GHG EMISSIONS GAIN TRACTION



The Future-Ready Shipping Conference 2017, held in September 2017, was jointly organised by the Maritime and Port Authority of Singapore and the International Maritime Organization (IMO).

Building on the success of the inaugural edition, this conference gathered close to 240 maritime leaders from various industry sectors, including shipping companies, classification societies, government organisations and industry associations at a common platform, to encourage information exchange and foster a culture of cross-boundary collaboration.

In line with the theme of "Enabling Maritime Technology Collaboration: Bridging Gaps; Strengthening Partnerships", two new members – Bureau Veritas and the Port of Rotterdam – signed a Memorandum of Understanding to join the IMO-GloMEEP Global Industry Alliance (GIA).

The GIA was launched in June 2017 to bring together like-minded industry players to develop innovative solutions that will assist the shipping industry to transit into a low-carbon future. Within the GIA, 16 industry players from various sectors have joined hands to collectively address barriers to the uptake and implementation of energy-efficient technologies and operational measures.

Singapore and the IMO also hosted a workshop after the conference on "Development of Maritime Energy Efficiency and Emissions Strategies and their Implementations" under the Singapore-IMO Third Country Training Programme – the first of its kind locally. It provided a platform for participants to draw on the various insights shared during the conference, and distilled best practices and recommendations for countries seeking to embark on the development of national energy-efficiency and emissions strategies, as well as policies.

SHIP'S LOG HAPPENINGS

NORWAY-SINGAPORE MARITIME DIGITALISATION FORUM



On Nov 14, 2017, the inaugural Norway-Singapore Maritime Digitalisation Forum was jointly presented by Innovation Norway, the Royal Norwegian Embassy in Singapore, and the Maritime and Port Authority of Singapore (MPA) to bring together government, business and technology leaders to discuss and debate the adoption of digitalisation in the maritime transport sector. Her Excellency Anita Nergaard, Ambassador of Norway to Singapore, was the guest of honour.

VISIT BY SABAH PORTS AUTHORITY



Delegates from the Sabah Ports Authority visited MPA's Port Operations Control Centre on Oct 20, 2017 to continue fostering good relations, as well as to find out more about Singapore's planning and development efforts.

PROJECT PAINTING SMILES II & ROJAK PARTY



On Dec 5, 2017, more than 30 members of the Singapore Shipping Association (SSA) and volunteers from Swire Pacific Offshore (SPO) joined hands to paint four murals and host a rojak-making party at the Lions Befrienders Senior Activity Centre in Bendemeer. The event was co-organised by SSA and SPO to bring cheer to elderly residents as part of the community partnership with the Central Singapore District.

SHIP'S LOG HAPPENINGS

NON-GOVERNMENTAL ORGANISATION (NGO) ENGAGEMENT SESSION



On Oct 6, 2017, MPA met with delegates from several NGOs in an interactive engagement session. The delegates learnt more about MPA's work in the maritime sector, and exchanged ideas on how MPA can work closely with the local community on marine environment matters.

MARITIME PUBLIC LEADERS' PROGRAMME



The 7th annual Maritime Public Leaders' Programme, which ran from Oct 9 to 13, 2017, welcomed 20 new, distinguished participants from various regions, including Africa, Asia, Europe, Latin America and the Middle East. This executive programme covers a wide spectrum of industry-relevant topics, ranging from port planning, management, shipping economics and finance, to maritime law and security, public leadership and governance.

CLEAN-UP ON KAYAK 2017



In conjunction with International Coastal Cleanup Day, MPA organised the second Clean-up On Kayak activity on Sept 30, 2017 at Sembawang PA Water Venture. The event's 120 volunteers paddled from Sembawang Beach to Seletar Island, collecting about 500kg of marine debris from our waters and shorelines. The amount of trash collected was recorded for data analysis and planning for future clean-up events.

the way

Shining a light on the strategic plans for the future growth of Maritime Singapore. Sol E Solomon reports

ahead



FEATURE

Singapore's maritime industry is a key part of the nation's economy, contributing 7 per cent to Singapore's Gross Domestic Product (GDP) and employing over 170,000 people. The recently announced Sea Transport Industry Transformation Map (ITM) is a tripartite effort which sets out the roadmap to drive Singapore's vision to be the Global Maritime Hub for Connectivity, Innovation and Talent. The roadmap builds on MPA's strategic long-term plans to develop Singapore's next-generation port and strengthen its leading status as an international maritime centre (IMC).

The growth of the maritime industry in Singapore continues to be driven by the twin engines of our global hub port and IMC. In recent times, the maritime industry has been affected by the global shipping downturn but growth is gradually picking up again with the recovery of global trade growth. Last year, Singapore's container throughput grew by 9 per cent to 33.7 million TEUs, up from 30.9 million TEUs in 2016.

Amidst this positive development, the maritime industry is undergoing a period of change and transformation as it operates in an increasingly

competitive and challenging environment. The Sea Transport ITM will lay out specific initiatives to catalyse innovation, drive productivity improvements and enhance the skills of the maritime workforce in order to position Maritime Singapore to stay ahead of the competition. The ITM is expected to help grow the maritime industry's value-added proposition by S\$4.5 billion and create more than 5,000 good jobs by 2025.

CONNECTIVITY

For Singapore to sustain its competitive advantage, MPA is working with industry stakeholders to strengthen inter-linkages, to better capture both physical and non-physical trade flows. They are: (i) connectivity among maritime enterprises; (ii) connectivity between maritime and adjacent sectors, such as commodity trading and e-commerce logistics; and (iii) connectivity with other maritime clusters.

This extensive network can be harnessed to develop cross-sector solutions. For instance, frequent dialogues among port operators, shipping lines and e-commerce players would



FEATURE



ensure that our future Tuas port would have the necessary infrastructure for efficient movement of goods. Collaborations with other IMCs in areas such as research, technology, education and training would help promote innovation and sharing of best practices. Improved market access to key growth markets abroad would help local maritime companies with increased market accessibility and penetration.

INNOVATION

This continues to play an important role in industry transformation, as Singapore develops future capabilities in emerging technologies such as autonomous systems, robotics, data analytics, and artificial intelligence.

Maritime Singapore is already embarking on the digitalisation process. One such example is Tuas Port, where deployment of automated systems will be scaled up. The port's ecosystem will integrate supply chain facilities such as the Maritime Single Window, which streamlines and makes port clearance quicker. MPA, Singapore Customs and the Singapore Shipping Association are currently working on the digitalisation of trade and maritime documentation, like electronic bills of lading, to facilitate more efficient trade

flows through Singapore. MPA is also working on digitalising current regulatory processes through the use of e-certificates for seafarers, and electronic bunker delivery notes, amongst others.

This digitalisation journey requires a collective effort by all stakeholders in the maritime innovation ecosystem. The inaugural SMI-MPA Maritime Innovation & R&D Dialogue was successfully concluded on 12 March 2018, bringing together various key stakeholders across the research, shipping, class, start-ups, technology and port community, deliberating on digitalisation and R&D capabilities and the collaborative model that maritime needs to embrace.

MPA will play an active role as a key enabler in this vibrant maritime innovation ecosystem. MPA has established the MPA Living Lab, which provides a real operating environment in which technology developers and industry partners can co-develop and pilot innovative applications in the maritime industry. In support of this, MPA will utilise its anchorages and sea spaces for maritime technology providers, institutions of higher learning and research institutions to collaborate with industry players to test-bed new applications and innovative ideas.

Aside from enabling infrastructure, MPA has

FEATURE



launched multiple programmes including the Singapore Maritime Data Hub (SG-MDH) to enable data sharing and the Maritime Technology Acceleration Programme (MTAP) to help start-ups translate their ideas into marketable solutions. To deepen maritime R&D capabilities, MPA and SMI have supported the establishment of Centres of Excellence such as the Centre for Maritime Energy and Sustainable Development (MESD) at NTU, and MPA has also launched the Maritime Transformation Programme as a strategic lever to build local capabilities.

TALENT

As the maritime industry transforms and grows, new initiatives will be launched to help Singaporeans take advantage of opportunities in the maritime industry, and build a future-ready workforce with relevant skills. MPA, PSA, Jurong Port and their respective unions have signed MOUs to build the competencies of maritime employees working in the port sector.

Employees will have to continually undergo skills upgrading, as the work becomes more knowledge-intensive. Maritime programmes, such as the SkillsFuture Earn-and-Learn Programmes, developed for seafarers and port operations

FEATURE



executives, will continue to be developed to meet industry needs. Maritime companies can tap on the Maritime Cluster Fund (MCF) to upskill their employees, not only in specialised areas, but also in more general areas like data analytics, cyber security, as well as in soft skills like communication and executive leadership. MPA will regularly review and enhance the MCF to ensure it caters to industry needs. For example, among the recent enhancements announced during the 2018 Committee of Supply, MPA has topped up the MCF by S\$100 million to help support the implementation of the Sea Transport ITM. MPA will roll out a new Global Talent Programme (GTP) to support companies' efforts in grooming locals for leadership roles in the maritime sector, by offering them opportunities to hone their skills through structured rotations and overseas exposure.

To strengthen the quality of maritime training and education, industry-relevant content and industry exposure components will be incorporated into the maritime curricula. Collaboration with universities, polytechnics, the Institute of Technical Education, PSA Institute and Jurong Port Academy will help deliver training programmes that are industry-relevant.

"The strategies and targets set out by the ITM are undoubtedly ambitious," says Dr Lam Pin Min, Senior Minister of State for Ministry of Transport and Ministry of Health, who recently launched the Sea Transport ITM. "But with the strong partnership from the industry, the unions and government agencies such as SkillsFuture Singapore and Workforce Singapore, I am confident that we can achieve our vision for Singapore to be the Global Maritime Hub for Connectivity, Innovation and Talent."





freedom to excel.

Sol E Solomon finds out how the Asian maritime sector can ride the crest of the global digitalisation wave.

PORT & STARBOARD

Since Asia's maritime industry is not beset with many legacy systems, the sector is well poised for a quantum leap in digitalisation. This paves the way for implementation of newer technologies, with the potential for the continent to create information technology (IT) solutions for the sector that are even more advanced than those already available elsewhere.

Such was the shared sentiment among the 200 senior industry leaders at INTTRA's Asia Technology Summit, notes Inna Kuznetsova, President and Chief Operating Officer of INTTRA. During the conference in Singapore last November, the delegates shared their views on how digitalisation and technology are changing the maritime industry.

Kenneth Lim, CTO/Director of Research & Technology and Industry Development, Maritime and Port Authority of Singapore (MPA), in his presentation at the Summit, said, "With the Sea Transport Industry Transformation Map launched, we are very encouraged by the efforts from maritime technology partners such as INTTRA, in supporting the industry on the

digitalisation journey. The wave of transformation will come, and with MPA's collaborative approach to working with the industry, we believe Maritime Singapore will stand a good chance to benefit from digitalisation, as it opens up many opportunities for new products and services to be seen from Singapore."

INTTRA is an electronic-transaction platform, software and information provider to the ocean shipping industry. Its products, combined with the scale of its network, lets its customers trade with multiple parties and leverage ocean industry information to improve their businesses.

INTTRA connects over 225,000 shipping professionals with more than 50 carriers and over 130 software alliance partners. More than 800,000 container orders are initiated on its platform each week, representing over one-quarter of global ocean container trade, a company spokesman says.

According to INTTRA's customers in China, Thailand, the Philippines and Singapore, INTTRA is the first major step to reduce errors, allow expert staff to focus on customer service,





INTTRA IS THE FIRST MAJOR
STEP TO REDUCE ERRORS,
ALLOW EXPERT STAFF TO FOCUS
ON CUSTOMER SERVICE, AND
ACHIEVE UP TO 40 PER CENT
SAVINGS ON MANUAL LABOUR

**INNA KUZNETSOVA, PRESIDENT AND
CHIEF OPERATING OFFICER, INTTRA**



and achieve up to 40 per cent savings on manual labour as the region's workers become more expensive, says Kuznetsova.

In the past, the Asia-Pacific shipping industry looked at digitalising customer service, shipping instructions and data analytics as "nice to have" but not necessary for conducting business. But today, most recognise the importance of tracking and electronic services as prerequisites for gaining business from large clients, she says.

And in recent years, technology providers, including many start-ups, are increasingly offering new solutions for shipping in tandem with the shift among shipping lines to go digital.

"A few years ago, we had discussions on whether the cloud is secure. The industry finally came to the understanding that if the cloud is secure enough for government projects, security agencies and major global hedge funds, and has more security certificates than any single data centre can afford, then probably it's secure enough," says Kuznetsova.

Now there are similar discussions around blockchain, an emerging technology that enables trusted networks between known participants, and the Internet of Things, which is the concept of connecting any device to the Internet to exchange data. These two technologies are gaining traction, and Kuznetsova expects that in time, the industry will similarly embrace them as it does cloud technology today.

"Two years ago, blockchain seemed like a complete fairy tale in this industry – something out of a mystery movie. Today, we see multiple blockchain proof-of-concept implementations. The fact that such pilots are happening tells us that the industry is much more open to digitalisation now, and that we should expect faster growth," she adds.

"We see less and less appetite in the industry for traditional projects due to the high overheads, such as complex enterprise resource planning implementations. And we are starting to see much more interest in small projects, with goals being set to improve contractual rates and container allocation. There's much interest today in projects around vessel utilisation and pricing."

In this vein, INTTRA announced two new cloud-based products and enhancements during the Summit. The first is its Container Forecasting and Allocation Solutions Tool (C-Fast) for freight forwarders and non-vessel-operating common carriers (NVOCCs). This product conducts automated allocation.

While performing the allocation of customer forecasting and carrier availability commitments, it is designed to optimise contract management with improved matching capabilities. Through easily imported customer forecasts, carrier commitments and contracts, C-Fast considers quantity commitment, contract type and carrier-space contractual obligations by port to optimise decisions.

INTTRA also upgraded its Ocean Schedules tool, which helps ocean supply chain professionals in their planning. The tool has a new Web interface and new application programming interface (API) for customers to integrate schedules data into their transportation management system, rate management system or other in-house applications.

Ocean carriers can also have a new API for direct request or response access to their schedules data. This enables them to provide their end users with the most current information direct from the carrier's scheduling system.



ship shape

Soren Skou tells Low Shi Ping how the digital revolution is affecting the maritime industry and its implications on businesses.

Soren Skou, CEO of Maersk, will be the keynote speaker at the Singapore Maritime Lecture, held during Singapore Maritime Week 2018. He tells Singapore Nautilus about the opportunities and challenges his company and industry are facing.



HOW IS MAERSK MAINTAINING ITS PASSION FOR TRADE IN THE FACE OF RECENT PROTECTIONIST TRENDS IN THE GLOBAL TRADE?

In Maersk, we are driving the transformation in our industry and business by developing new end-to-end services, which lower barriers to trade by connecting and simplifying the supply chain of our customers.

However, we see that the opposition to free trade is stronger than we have seen in decades. We all need to recognise that with globalisation, the benefits of international trade have not been shared equally.

Why this is the case – and how more people can be included to share the benefits of trade – is something our company, industry and the global community need to understand better.

Working at the heart of trade, I think we have a responsibility towards making global trade available for everybody. Free trade is a key element on that journey.

WHAT ARE THE MOST EXCITING DIGITAL INNOVATIONS COMING OUT OF MAERSK?

In September 2017, Maersk Line launched the Remote Container Management for customers, which provides those who are shipping refrigerated cargo with an unprecedented understanding of their supply chain.

In March 2017, we announced a cooperation with IBM to explore blockchain technology as an enabler of a fully digitised supply chain. This partnership has now developed into the intention to create a joint venture aimed at digitising trade flows.

WHERE ARE THE OPPORTUNITIES IN THE MARITIME INDUSTRY AT THIS MOMENT IN TIME? HOW IS MAERSK HARNESSING THEM?

Documentation costs and complexity are very real barriers to trade for many, particularly smaller companies. By integrating our businesses to provide seamless, digital end-to-end solutions, we are convinced that not only can we simplify our customers' supply chains, we can also offer the opportunity to lower the barriers to trade.

We are working to digitise the ways we operate our assets, transactions and interactions with customers. This will reduce the paperwork and documentation in international shipping, and provide better service to our customers.

Our partnerships with IBM and Microsoft have set out to achieve this goal. At the same time, they will make it possible for many more people and businesses from all over the world to participate in

international trade. We are also tapping big data. For example, containers can be turned into smart boxes and data generators, helping customers reduce costs and better understand their supply chains.

WHAT IS THE BIGGEST CHALLENGE IMPEDING THE GROWTH OF THE MARITIME INDUSTRY IN 2018? HOW IS MAERSK HELPING TO OVERCOME IT?

There is a change in customer expectation and behaviour. It calls for new, customisable logistics services instead of fitting different customers into generic, one-size-fits-all products.

Digitisation and new technologies are rapidly forcing businesses to prepare for a tomorrow that is unpredictable. This also applies to container shipping, ports and logistics, which have largely been driven by traditional business models focused on optimising how you move goods.

But "smart transportation" is more than moving cargo from A to B. It means seamless service to our customers, visibility in the supply chain, and driving a more efficient business.

We should be able to facilitate seamless digital and physical logistics for all aspects of global transportation for the customers. Transforming into a global integrator of container logistics, I believe Maersk has an important role to play in this change.

LAST YEAR'S NOTPETYA CYBER ATTACK TOOK A LOT OF PLAYERS IN THE SHIPPING INDUSTRY BY SURPRISE. WHAT STEPS HAS MAERSK BEEN TAKING TO AVOID FALLING UNDER SUCH STRIKES AGAIN?

Since the cyber attack, we have been working to rebuild, restore and harden our IT infrastructure. We are putting in place different and further protective measures, and are continuing to review and strengthen systems to protect against future attacks. We continue to investigate this incident, and are taking note of the lessons learnt to apply them to our future efforts in this area.

YOU'VE BEEN WITH MAERSK SINCE 1983. WHAT IS IT ABOUT THE COMPANY THAT HAS KEPT YOU THERE FOR 35 YEARS?

During the cyber attack, Maersk responded to the incident with great resilience, creativity and entrepreneurship to get the business back up and running. One of my takeaways was my colleagues' incredible diligence and great dedication to the company. I believe that speaks of a character of ours that I have come to know and appreciate in my time at Maersk.

keeping shipping lanes safe

Masafumi Kuroki chats with AJ Leow about the need for multilateral sharing of information, in efforts to combat piracy and sea robbery in the region

Masafumi Kuroki, Executive Director of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) Information Sharing Centre (ISC), has been a career diplomat at Japan's Ministry of Foreign Affairs for more than 40 years, including postings in Malaysia, Indonesia and Cambodia. Having also been Vice-President of the Japan International Cooperation Agency and Deputy Director-General for the Trade and Economic Cooperation Bureau at Japan's Ministry of Economy, Trade and Industry, he has unique insights that are needed to effectively address cross-border cooperation against piracy and other maritime threats.



TAP FOR MORE

THERE WAS AN INCREASE IN INCIDENTS IN 2017 AS COMPARED TO 2016. WHAT DO YOU THINK ARE THE REASONS BEHIND THIS?

We saw an increase in incidents to 101 [89 actual and 12 attempted incidents] last year, compared to 85 in 2016.

The almost 19 per cent rise is largely attributed to an increase of incidents in Bangladesh [11 incidents] and the Philippines [17], mainly at ports and anchorages. There was also an increase of incidents in the South China Sea [12], as well as in the Straits of Malacca and Singapore [nine].

Possible reasons for the increase are lower surveillance by the littoral states and port authorities, and the lack of vigilance among ship crew.

IS THERE A NEED FOR THE MARITIME COMMUNITY TO BE TROUBLED BY THIS TREND AND ITS CONTRIBUTING CAUSES?

In terms of the level of severity of the incidents, there was a decrease in the number of the most severe incidents [Category 1] in 2017, compared to 2016. There were six Category 1 incidents in 2017 – a more than 50 per cent drop from 2016's 13 incidents.

Declines were also seen in the number of incidents occurring at ports and anchorages in India, Malaysia and Vietnam, as well as in the number of incidents of abduction of crew in the Sulu Sea and Celebes Sea. There were three in 2017, compared to 10 in 2016.

So actually, the situation has improved overall. However, there is no room for complacency. There is a need for maritime enforcement authorities to exercise enhanced vigilance and strengthen their capacity to deal with the threats of piracy and sea robbery.

Cooperation and coordination among governmental agencies – including intelligence sharing between the police and maritime enforcement agencies – are crucial in order to apprehend and prosecute the perpetrators.

ARE CYBER ATTACKS A GROWING AREA OF CONCERN?

For sure, this is an emerging area of concern. At this point in time, though, cyber attacks are usually not directly linked to piracy cases. They are, nonetheless, a threat to the maritime community at large, and there is a need to take

relevant precautions against them.

ReCAAP's member nations range from more advanced countries, whose shipping companies are well on the path to digitalisation, to less developed economies whose companies are less dependent on technology. Therefore, the impact of the cyber-security problem varies between countries and shipping companies.

The fact is that we do not see a lot of reported cases, probably due to under-reporting. Nonetheless, we acknowledge the importance of the problem, and occasionally invite experts in the field to share their knowledge with member countries, and raise awareness on the possible and potential threats against the shipping industry.

WHAT ROLES DO GOVERNMENTS AND SHIPPING ASSOCIATIONS PLAY IN JOINT EFFORTS TO COMBAT PIRACY AND CREW ABDUCTIONS?

Ships/shipping companies are strongly requested to report the incidents immediately to the nearest coastal states so that enforcement agencies can deploy their ships efficiently.

Enforcement agencies have to ensure quick responses whenever an incident is reported. Otherwise, victim ships will end up not reporting incidents to the authorities due to a lack of confidence that any action will be taken against the perpetrators.

This is why there is a strong emphasis on capacity building within and among governmental agencies, such as coast guards, marine police and port authorities.

Our capacity-building activities, which are conducted two to three times a year, are attended by officers from ReCAAP's member countries. At these meetings, participants share their experiences and challenges so as to enhance enforcement capabilities.

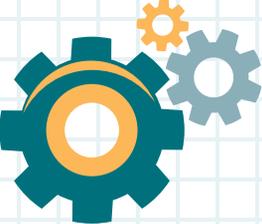
The improved situation in Vietnam, for example, can be attributed in part to the closer monitoring and surveillance being carried out.

With improved information sharing and coordination among governmental agencies, the Vietnamese authorities arrested a number of perpetrators in 2016.

They have also created employment opportunities for fishermen in the Vung Tau area so that these fishermen are not lured into illegal or illicit activities.



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safer, more secure, and easier buys



Singapore-based e-marketplace
simplifies procurement process
for the maritime sector.
Sol E Solomon finds out more



MOSCORD, an online purchasing portal for the marine industry, established itself in Singapore with the objective of helping the country's ports better serve their customers.

The e-marketplace's online catalogue lets suppliers showcase their pre-priced goods such as power tools, chemicals, paints and spare parts, so shipowners and ship operators can browse and order. Since its creation 1½ years ago, the e-marketplace has so far amassed 30,000 products.

As for Singapore, close to 25 per cent of all products are delivered to ships at the Republic's ports. There are about 70,000 ships globally, and Singapore receives about 130,000 port calls yearly, noted Freddy Ingemann, CEO of MOSCORD, which is an acronym for Marine and Offshore Supply Chain Optimisation Research and Development.

"This is one of the biggest ports in the world, with the biggest demand." According to Ingemann, because of the current procurement procedures practised by the marine and offshore supply sector, there could be as many as four middlemen from the manufacturer till when a product reaches the customer. Every time a product goes through a middleman, prices increase and communication problems can occur.

That's where the purchasing platform has the advantage. Designed to bring manufacturers and big industrial wholesalers in direct trade with the ship operators, customers are able to enjoy better prices because the products are bought as close to the production source as possible.

Buyers use the e-marketplace for free, and they can save at least 20 per cent on their purchases, according to MOSCORD. "So all the ships coming to Singapore will be able to buy the products for very good prices and at a very high delivery consistency. This is very important for Singapore in the competition it's in," said Ingemann.

Major suppliers and manufacturers on the platform include electronic distributor RS Components, Schneider Electric, Viking Life-Saving Equipment and MedSupply International. Transactions take place transparently, allowing suppliers to know who are buying their

products, while purchasers know where the products come from.

To transact, a ship makes a requisition based on MOSCORD's catalogue that's available either online or offline on board the ship. The vessel then sends the requisition to its procurement office on land via satellite.

Ships do not buy online directly because their transactions must go via their owners' purchasing system, so that all transactions are tracked and budgets are kept. Then the purchase department sends the order to the e-marketplace.

Leveraging a port hub system, MOSCORD brings these products to the vessel at a port designated by the shipowner. So when a customer makes the order, MOSCORD's logistics partners consolidate the products in the order, and ensure that all export documents are created and the goods are delivered to the ship at the stipulated port.

The port hub system, together with MOSCORD's logistics partners, lets it deliver to over 1,000 ports around the world, said Ingemann. Logistics partners include Steder Group in Rotterdam, SG Shipping in Singapore, and global arrangements with GAC and DSV.

"SHIPS COMING TO SINGAPORE WILL BE ABLE TO BUY THE PRODUCTS FOR VERY GOOD PRICES AND AT A VERY HIGH DELIVERY CONSISTENCY."

FREDDY INGEMANN,
CEO OF MOSCORD

THE FUTURE

For now, MOSCORD receives orders via existing transaction platforms or through the shipowners' own networks. Payment is transferred the normal way, from bank to bank. But it is leveraging blockchain technology as a trustworthy environment for the future.

Blockchain is a public digital ledger for transactions to be recorded across many computers. In this way, the record cannot be altered retroactively without altering all subsequent blocks and compromising the network. This allows the participants to verify and audit transactions inexpensively.

This emerging technology will definitely ensure a higher trust and higher security, said Ingemann. "It is a closed secure environment on the Internet for transactions. If a buyer sends an order to a supplier, the transaction will be captured in that secure environment. Only parties directly related to a transaction can trace and track the information, while it will be totally secured from other people."

An example of how blockchain is able to instil greater trust is when a shipowner makes a \$10,000 order through a trusted third party like MOSCORD. For this, the buyer creates a virtual block on the Internet worth \$10,000. The trusted third party moves that block to a neutral area in the blockchain environment for the supplier to see that the buyer has actually paid. But the seller will only receive the money when the product is delivered on board the ship.

With millions of very low volume purchase order transactions averaging US\$3,000 each going on in the maritime sector, the market is worth US\$32 billion globally, said Ingemann. "So being able to use blockchain to track these transactions, and make them transparent in a secure environment for the right people, is something that has high potential for our business."

MOSCORD hopes to run a pilot on blockchain within 12 months. It sees Singapore and Rotterdam becoming the platform's biggest markets, followed by Houston and Shanghai.

"Singapore is very big, not only because there are many ships going through it but the trend is that they also tend to buy products in Singapore because of good prices [due to] tough competition there. And to get them to [continue] to buy in Singapore is what you want to develop further," said Ingemann.





marine insurance industry poised for further growth

Santosh Kumar speaks to Steamship P&I Management (Singapore) and Latitude Brokers, who have recently established operations in Singapore, which also serves as a springboard to opportunities in the Asia-Pacific region.

The marine insurance sector in Singapore has seen positive growth over the years, with an increasing number of marine insurance players operating in the country.

The increase in Asian trade in recent years has led to a corresponding rise in demand from ship and cargo owners for marine insurance. To tap into this growing market, an increasing number of marine insurers are setting up their Asian offices in Singapore, attracted by its stable political and pro-business environment.

Singapore has built a vibrant maritime ecosystem in the last two decades. Specifically within the marine insurance sector, leading marine insurance players have been setting up shop and expanding their presence over the last 1½ decades.



MARITIME SERVICES



As at December 2017, nine of the 13-member International Group of Protection & Indemnity (IG P&I) Clubs, which insure third-party liabilities for about 90 per cent of the world's ocean-going tonnage, have established operations in Singapore. The need to be in closer physical proximity to better service their customers is a commonly cited reason.

Besides the IG P&I Clubs, Singapore also serves as the gateway to Asia-Pacific for leading insurer Lloyd's of London (Lloyd's), which currently accounts for 21 per cent of global gross premiums for the marine hull and liability insurance business.

Lloyd's chose to establish a Lloyd's Asia platform in Singapore in 1999. From two Lloyd's Asia service companies in Singapore, the Lloyd's Asia platform in Singapore is now home to 20 service companies, of which 19 write a comprehensive range of marine risks.

The marine insurance and P&I providers in Singapore are supported by a strong presence of about 20 marine insurance brokers. These include global market leaders such as Aon, Jardine Lloyd Thompson, Marsh and Willis, as well as marine specialist brokers such as LCH Lockton, Edge Insurance Brokers and Latitude Brokers.

Multinational brokers like Aon offer multi-lines of services, which means ship and cargo owners can approach them not just for marine insurance placement but also value-added services such as risk management and consulting services.

Marine specialist brokers such as Latitude Brokers, which established its presence in Singapore in 2016, are equipped with product speciality knowledge and are able to offer bespoke services. The presence of specialist brokers offers the maritime community additional service providers from which to choose.

A cluster of ancillary service providers that support the growth of the marine insurance sector has also grown in Singapore in recent years. These include classification societies such as DNV GL and Nippon Kaiji Kyokai, law firms like Campbell Johnston Clark and Vedder Price, marine surveyors such as Braemar Technical Service Ltd and Sing-Lloyd, and incident specialists and maritime consultancy firms, including CWA International and Minton, Treharne & Davies.

To strengthen Singapore's marine insurance hub position, the Singapore Shipping Association worked with The Standard Club Asia Ltd to launch

MARITIME SERVICES



the Singapore War Risk Mutual (SWRM) in 2015.

The SWRM is a milestone development for Maritime Singapore, as Singapore now joins the ranks of key maritime nations, like Greece, with its own war risk facilities. Today, the SWRM covers over 600 vessels.

"Singapore will continue to grow as a strong Asian marine insurance hub," said Jerry Westmore, Director, Steamship P&I Management (Singapore), which provides Protection and Indemnity risks for ship owners and charterers and yacht owners.

"It is inevitable that, as the country continues to attract shipping companies to set up businesses here, the insurance business will grow alongside. As the shipping markets recover, I believe there will be strong growth in South-east Asia."

Some already consider Singapore the epicentre of Asia's marine insurance industry.

"While Japan, South Korea, China and Hong Kong all have big marine insurance markets, none has the risk diversity and user-friendly capacity of the Singapore insurance market," said Charles

D'Alton, founding partner at Latitude Brokers, which handles only marine insurance.

"With the Lloyd's Asia platform and the vibrant company market now well-established in Singapore, the needs of both marine brokers and clients are very well catered for. The presence of loss adjusters, surveyors, class societies, maritime lawyers and marine correspondents mean that all elements of the maritime insurance venture can be looked after."

"Having a full-service office in Singapore allows us to service existing members as they grow, and to attract new business to the Clubs," said Westmore, whose company, after having an office in Hong Kong for many years, expanded its capabilities in the region by opening two more in Singapore and Japan in the last two years.

Said D'Alton, whose company also incorporated its first Asian business in Hong Kong: "Singapore provides our company with a politically stable and well-regulated platform to transact business with both developed and developing



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MARITIME SERVICES



markets in the Asia-Pacific region, which is leading the world in economic growth.

"Beijing's One Belt, One Road initiative foretells decades of further growth and a bright future for the Asia-Pacific region. Singapore is the perfect base to be a part of this future."

For nascent companies like Latitude Brokers, there were other contributing factors, too, that compelled them to set up offices in Singapore. D'Alton lists them: "The advantage we would gain from being close to Singapore's dynamic marine insurance market; the need to be close to the large, vibrant, domestic and international shipping community that resides in Singapore; and the credibility and stamp of quality that it provides."

He added: "Being connected to the marine industry in Singapore means you are connected to the global marine industry. So, for us, being in Singapore means the opportunities for expansion are countless."

Another important element that major marine insurance companies consider is the ease of conducting business. Marine insurance is still a people business, and relationships are everything. While remote working is becoming easier, nothing replaces being face-to-face with a client or an underwriter to go through a problem together, or to get a deal done.

"Singapore is a small island state, but this is the beauty for a broker like Latitude," said D'Alton. "The vast majority of the insurers we work with are within a 500m radius of our office in Cross Street and, in terms of clients, no one is further than a 45-minute drive away."

"We also do a lot of business travel to see clients across the Asean, South Asia, Australasia and Greater China markets, and the connectivity

that Changi Airport provides us makes this a lot easier. Singapore also speaks an international business language. So, in comparison to other countries in the Asia-Pacific region, it is easier for a European like myself to work in Singapore than anywhere else."

Westmore, too, endorsed that point. "Singapore has been very welcoming both at the governmental and business community levels," he said. "It creates an environment conducive to doing business, and geographically it is an easy location for working within South-east Asia."

For Westmore, all these components allow his company to provide "the best service possible" for its members. "By having an office in Singapore, we can ensure that we do this for our South-east Asia membership," he said. "In addition, we want to continue to attract quality operators to the Club, which we believe will be enhanced by our presence in Singapore."

D'Alton believes the facilities that the country offers will permit Latitude to scale-up its business. "All our intention is focused on our marine clients, who are the backbone of our business," he said.

"It has been very easy to conduct business in Singapore. We have a really good group of people working at Latitude, and if you have the right people, then you know you're going in the right direction."





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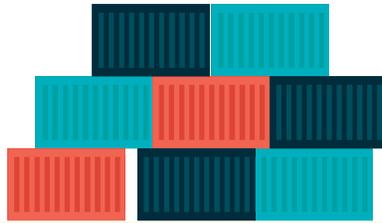




recipe for success

Menon Economics Managing Partner Erik Jakobsen shares with AJ Leow some of the key ingredients that make Singapore a leading maritime innovation centre





The main drivers for a maritime innovation centre are very much the same for leading maritime cities.

They include a strategic location; a favourable and stable political framework; a transparent and efficient legal framework; proximity to big and demanding customers; an abundance of suppliers and service providers; relationships based on trust; local rivalry and, hence, competition for quality; specialised universities and research institutions; an adequate pool of talent; an open flow of knowledge and ideas; and an existing meritocratic education and career system.

Together, such factors produce spirals of self-reinforcing growth – or decline, if said factors are absent.

INTERDEPENDENT FACTORS

To put it simply, for a city's maritime industry to prosper, two conditions must be satisfied: the companies situated there have to be competitive, and the city has to be attractive as a host for these companies.

These two conditions are mutually dependent. The companies gain their competitiveness from resources available in the city – such as access to capital, talent and specialised supplies – and the price they have to pay for these resources. Accordingly, the attractiveness of the city increases when competitive companies are present in it. Hence, it is important to attract winners.

Over time, a city's attractiveness is gradually shaped by the dynamics of its industry. Where strong cluster dynamics are present, knowledge is both continuously improved and dispersed, upgrading both companies and resources.

Finally, governments play a central role in defining a city's attractiveness. Through various public policy factors such as taxes and subsidies,

they determine the price of capital, labour and other input factors. The quality of the resources available in a city is to a large extent determined by investments in infrastructure, education, and R&D.

SUCCESS REQUIRES SUSTAINABILITY

In principle, with these ingredients in place, there should be sufficient self-reinforcing factors available to continuously upgrade an innovation-based ecosystem. Weak parts of the system should theoretically be strengthened by other supporting parts. For example, if the existing talent pool is too small to meet the labour/talent demand, wages will increase, and the industry will then attract more talent either from other sectors or abroad.

However, some of the factors – such as public policy – are exogenous to the system, and will require political will and decision-making to make things happen. The system as a whole can also be restrained if some factors are mutually hampering. For example, information sharing may be hindered by a lack of trust between actors, which again may be rooted in an inefficient and non-transparent legal system. If that is the case, it is necessary to go to the root of the problem.

I must admit I am impressed by Singapore's strategic approach, and how it has managed to successfully mesh some of these ingredients in order to not only establish a leading maritime cluster, but also, in recent years, transform the cluster into an innovation centre.

Two things are particularly noteworthy: first, Singapore's constant focus on staying attractive to foreign investments, and second, its implementation of systematic investments in research and education capabilities, combined with the magnitude of collaboration between the



industry and the research institutions.

Still, I believe there is room for improvement, perhaps in relation to entrepreneurship.

I do see an important difference between the maritime industry in Singapore and in my home country of Norway, and am aware of the two ecosystems' respective pros and cons.

In Norway, the industry is composed mostly of highly specialised local communities that are mutually dependent on one another. The advantage of this is that the level of trust between players, built on informal relationships, reduces transaction costs and increases flexibility.

Local companies can realise the gains of specialisation, while the industry as a whole retains a sense of completeness, because the local clusters serve one another. The disadvantage is that each local community can be a little brittle, in that it is less attractive to foreign talent. Oslo, though, is seen as an exception.

REMAINING HUMAN-CENTRIC

For effective transformation to take place, you need both hardware and "heartware". Both are important. You first need to establish an efficient infrastructure to act, and make collaboration possible and more seamless.

However, for that to materialise, you will need people with the right mindset – individuals who are not just highly trained and skilled, ambitious, and performance-driven, but also open-minded and open-handed. Greed is not the right basis for innovation.

In this sense, education and training are crucial. However, with the speed at which technology is developing around the globe and the uncertainties over what areas of competence will be needed in the future, I would be careful in not trying to tailor-make education to the current company demands. A world-class generic education is safer,

and might actually be more productive than a maritime-specific education.

With strong generic education in basic disciplines such as mathematics, statistics, physics, geology and economics, employees will have developed the capability to learn quickly. Company-specific skills can be developed later through courses, training and on-the-job learning.

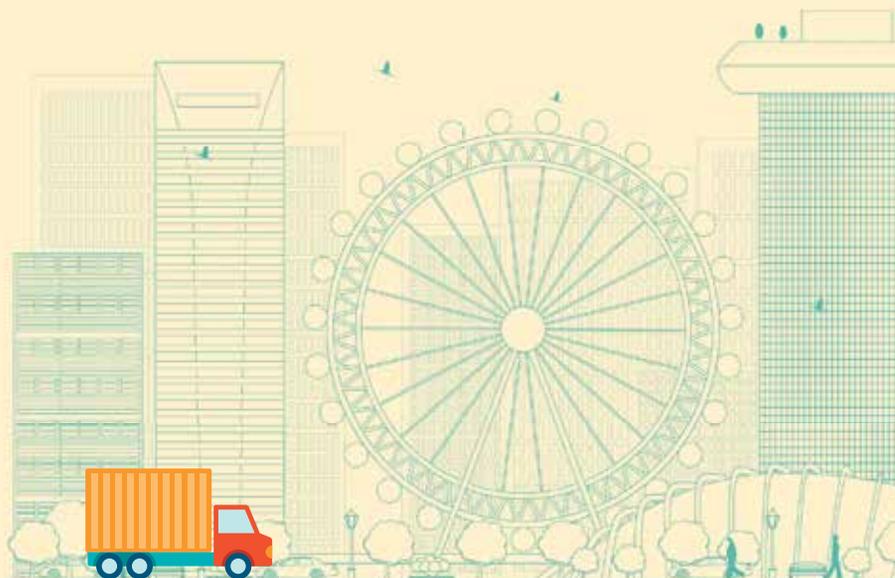
It is also important to ensure a level playing field so that smaller players are not crowded out or made less relevant. For small start-ups, the most important threshold to overcome is that of commercial proof. Hence, it is extremely important to have domestic customers that are both able and willing to implement innovative products and solutions from the smaller, entrepreneurial firms.

On the other hand, from the customer's point of view, it is important to have world-class suppliers. The larger one's investments, the more risky it becomes to use small vendors with limited experience. These are considerations to be mindful of when striking a balance.



ABOUT ERIK JAKOBSEN

Professor Jakobsen, Managing Partner of Norwegian science-based analysis and consultancy firm Menon Economics, is an established business economist. He co-founded the firm with Leo Grunfeld in 2006. Jakobsen is also an author, scholar, lecturer and advisor with more than 25 years of experience.





bracing for the future

Four participants of the 7th Maritime Public Leaders' Programme, held last year from Oct 9 to 13 in Singapore, share with Audrina Gan their insights on port planning and challenges facing the shipping industry

CLOCKWISE FROM TOP LEFT

Alfredo V. Vidal Jr, Deputy Administrator for Operations at the Maritime Industry Authority (MARINA) of the Philippines; Anthony Ogadi, Head of Shipping Development and Operations at the Nigerian Maritime Administration and Safety Agency in Nigeria; Rashid Mohamed Al-Kiyumi, Director General of Maritime Affairs at the Ministry of Transport and Communications in Oman; and Kemron Beache, Senior Inspector of Ships at Saint Vincent and the Grenadines Maritime Association in Saint Vincent and the Grenadines.

SINGAPORE NAUTILUS: WHAT IS THE FUTURE OUTLOOK AND VIABILITY OF THE SHIPPING INDUSTRY, AS GLOBAL TRADE CONTINUES TO SLOW AND AN EXCESS OF SHIPS IS SQUEEZING INDUSTRY PROFITS? WE'VE HEARD THAT THE CHALLENGES ARE IN PART COMPELLED BY CORPORATIONS TURNING TO AIRFREIGHT AS A CHEAPER AND FASTER WAY OF TRANSPORTING THEIR GOODS TO CUSTOMERS.

ALFREDO VIDAL (AV): In my opinion, the shipping industry will continue to be the cheapest and most efficient means of transporting global trade goods.

The world's shipping fleet has grown faster than the growth in demand for ships, thus creating an imbalance of supply and demand. However, liquid and bulk cargoes will continue to be transported by sea, due to the sheer volume involved. Existing ships, especially the older ones, may have to be recycled to give way to new, technologically up-to-date and sophisticated modern vessels, in order to comply with the latest international standards. This will affect the bottom line.

Shipping companies should look for ways to leverage their present business resources to continue to be the most economical mode of transport, even in these challenging times.

RASHID MOHAMED AL-KIYUMI (RM): The shipping industry has evolved many times to reach its present status. Ship sizes have changed to achieve economies of scale. Lines have merged to gain strength, and many small operators have vanished from the horizon. Different types and classes of ships have come into existence to give focus to various commodities and their requirements.

Excess ship capacity puts pressure on shipping companies for more efficient operations and services. But air transport is not cheaper than sea transport for normal cargo, and its volume is not considerable, so its growth does not seem to be a real threat to sea transportation.

KEMRON BEACHE (KB): There will always be a need for shipping due to the quantities and diversity of cargoes that ships move. Airfreight can adversely affect shipping, but only to a certain extent.

The current situation – in which we see the merging of shipping lines into a few very large operations – could have an adverse effect on the Caribbean shipping ecosystem. Our region is dependent on smaller shipping lines. If these

lines get taken over, our ability to expand into agricultural industries will be affected, as goods and services shipped to relatively small markets like ours could be affected by higher transportation costs.

ANTHONY OGADI (AO): In my opinion, the future outlook and viability of the shipping industry is still encouraging, and will be as long as the developed economies of the world see emerging economies like ours as development partners. They can leverage our local population of 170 million, which can provide guaranteed labour, and invest in the training of seafarers and the establishment of maritime training institutions.

Investors can also buy into our maritime industry by tapping the full potential of the Blue Economy in Africa. This economy plays a major role in the continent's structural transformation, sustainable economic progress and social development. The largest sectors of this economy are fisheries, aquaculture, tourism, transport, ports, coastal mining and energy.

Hence, we need to have a policy framework for sustainable and environmentally friendly development, while harnessing the available opportunities. Our quick adaptation of liquid natural gas as an alternative source of clean energy also makes Africa stand out as the next frontier of maritime investment opportunity.

WHAT ARE SOME OF THE OPPORTUNITIES THAT THE SHIPPING INDUSTRY CAN LEVERAGE IN ORDER TO GET THROUGH THESE CHALLENGING TIMES?

AV: The Philippines' domestic shipowners can take advantage of the current overcapacity in the shipping sector by acquiring ships at lower prices. This will in turn support the government's modernisation programme regarding the retirement and replacement of ships in the domestic fleet. In the newly deregulated shipping environment, it is best for local shipping companies to make pricing their competitive advantage, and to also consider value engineering.

RM: Opportunities are always available. Prudent businessmen will have the vision to foresee future requirements. If they change with the times, they can remain in business. The quality of their service, and their attitude, will make the difference.

KB: Old ships will have to go. And while this may

“...WE NEED TO HAVE A POLICY FRAMEWORK FOR SUSTAINABLE AND ENVIRONMENTALLY FRIENDLY DEVELOPMENT.”

ANTHONY OGADI, HEAD OF SHIPPING DEVELOPMENT AND OPERATIONS AT THE NIGERIAN MARITIME ADMINISTRATION AND SAFETY AGENCY

adversely affect the industry initially, it will also give way to innovation and advancements in ship design as well as the construction of green ships.

AO: The shipping industry can set up networks and alliances with other industries, such as the manufacturing and mining industries, to offer competitive rebates in sea freight on a long-term basis. This will help take care of long-term investments and planning for shipping lines while building cooperation and sustainable alliances.

WHAT ARE SOME KEY INSIGHTS THAT YOU HAVE GATHERED AT THE MARITIME PUBLIC LEADERS' PROGRAMME?

AV: I have exchanged key insights with fellow participants on the structure of the maritime administration in their respective countries, and the openness and willingness of their governments to adopt the best industry practices to develop their maritime and port industries. Singapore's leading hub status is a demonstration of such open-mindedness to adopt the best practices.

RM: The programme allowed me to gain detailed and insightful information related to the regulation of the maritime and port sector. The role of the Maritime and Port Authority of Singapore (MPA) as a regulatory body in Singapore is a significant factor, especially with the establishment of its Maritime Academy. Thus, MPA has managed to steer the sector towards immense results.

One other lesson I've gained from being here is the importance of collaboration and



COMMUNITY TALK

coordination among all stakeholders of the industry.

KB: I am impressed by the level of port development in Singapore, which has been heightened by the country's competitive mentality and strategic geographic location. We would like to explore the possibility of emulating the same level of organisation and disciplined commitment towards achieving strategic objectives – like what we've seen in Singapore – in our country.

AO: The main insights I've gained are on how we can positively impact the maritime organisations in our country using the Singapore model. We will compare notes on areas of our potential, bearing in mind our strengths and weaknesses.

Nigeria has a coastline around 853km long, and we are strengthening our institutions so as to be able to optimise our national maritime potentials. We were somewhat overwhelmed by the achievements Singapore has managed, but we have a common resolve to change things for the better. We want to turn the challenges we are facing into opportunities.

WHAT ARE SOME OF THE RECENT AND FUTURE PORT DEVELOPMENTS IN YOUR COUNTRY WITH A VIEW TO BOOSTING THE SHIPPING INDUSTRY?

AV: We have made enhancements to the Philippine Nautical Highway System network and major ports. An agreement was also signed recently for the development of a master plan to build a dedicated port and cruise ship terminal in Manila.

RM: Looking ahead, a US\$60 million [roughly S\$79 million] deal with a UK-led consortium will see our Sohar port in Oman housing the largest rare-earth metal plant of its kind outside of China. We also have agreements with two of Oman's biggest business companies, by which the final assembly of the world's biggest auto brands – including Toyota, Lexus, Nissan, BMW and Hyundai – will take place at our newly expanded shipyard.

AO: We have started giving port concessions to private operators, and this has reduced bureaucratic processes in port operations. Automation of cargo clearance processes has also eased cargo dwell time significantly. Nigerian Customs' Single Window Trade

Portal also enables a one-stop platform for documentation processes for various government agencies with different responsibilities at the ports. There is also a presidential directive on improving the ease of doing business in the country. The order gives a shorter timeline for the issuance of various permits and clearances to business interests.

CAN YOU SHARE WITH US YOUR COUNTRY'S PUBLIC POLICIES ON HOW TO RAISE AND BOOST THE EFFICIENCY OF THE INDUSTRY STANDARDS FOR THE SHIPPING SECTOR?

AV: The Philippines has established policies to raise and boost the efficiency of business standards in the shipping industry. These include a modernisation programme targeting domestic vessels, in which wooden-hulled ones are being replaced with modern types.

We have a VAT [value-added tax] exemption for the import and sale of ships too, to bring down the capital cost of shipping. We also have a Passenger Service Rating System through which ships are being surveyed, to check on their service quality and compliance to safety standards. Ships are rated accordingly, with incentives given to vessels and companies that comply with the standards.

KB: We have drafted an ocean governance policy to promote and develop sustainable practices. The policy has to do with the coordination and management of activities – such as fishing, the placement of moors for yachts, and the development of marine parks – that affect the health of our marine environment.

AO: We have deregulated the maritime industry by allowing private-sector participation in maritime infrastructure development, shipping operations and direct foreign investments. Through a presidential order, we have also eliminated a lot of bureaucratic processes at our seaports, to facilitate the ease of doing business.



CAREERS



holding the line

His role is both critical and challenging, but Workplace Safety and Health (WSH) Officer Tay Teck Sheng takes it all in stride. He shares his journey with Annabelle Bok

CAREERS



Some individuals follow their passions in seeking a career. Others, like Tay Teck Sheng, stumble into careers that ignite their passions – seemingly by “sheer luck”.

“I chanced upon the maritime industry in 2008 and never left,” he says. “After serving my national service, I joined the maritime industry and had a stint at a tank transportation company, before starting my career with Jurong Port as a yard and vessel planner.”

Eight years on, he has progressed through several hands-on planning and operational roles, had a chance to handle various types of cargoes – from container to bulk and general – and is now a Duty Officer in Jurong Port’s WSH team.

“It has been an eye-opening journey,” he says. “The work environment here is dynamic. I am always given the chance to be exposed to new opportunities, not just within my scope of work but also for cross-deployment.”

So about five years ago, making the most of this supportive growth culture, Teck Sheng decided to pick up a new skill. Attending a few basic safety courses sparked his interest. He delved further into

the field, and armed himself with specialised safety skills such as how to work in confined spaces and manage site emergencies. “I was fortunate to then be given an opportunity to apply what I had learnt, and joined the Workplace Safety and Health team,” he says.

A typical workday now sees him conducting vessel safety inspections and overseeing safety assessments for stevedoring and other port operations, hot work, and operations in confined spaces. He also ensures that dangerous cargoes are handled appropriately, responds to safety enquiries from port users, investigates incidents, and implements preventive measures with the support of four Safety Inspectors in each shift.

Other regular duties include conducting toolbox discussions with stevedoring companies, conducting emergency drills, and ensuring his team members’ training needs are fulfilled.

PRIORITISING SAFETY

He shoulders a long list of responsibilities, but Teck Sheng takes every one of them seriously.

“It’s essential to take action immediately when a potential unsafe act or condition is identified, to prevent a potential accident,” he says. “Advising port users and maintaining compliance with safety requirements are needed to nurture and spread safety culture, and quick response to emergencies helps minimise property damage or loss of life.”

It’s clear that his superiors have noticed his zeal. Teck Sheng has been put forward as a careful observer, strong communicator and good team leader with loads of initiative. We asked him what he feels makes a good WSH officer, and his earnest response was telling.

“One needs to be able to make and take responsibility for difficult decisions that may have wider implications. Being able to remain calm, focused and analytical in emergencies are other important characteristics. Teamwork, a positive attitude and patience are needed as one will surely face difficult situations and individuals. And passion – you can’t go very far without it in our line. Without it, you can very quickly or easily lose commitment to upholding safety.”

Asked what he finds most rewarding about his job, the 37-year-old eagerly rattles this off: “Rectifying unsafe behaviours and conditions. Having to take action against non-compliance is unpleasant, but I always tell myself that I might have just saved someone’s life. That really motivates me.”

1.
Ability to keep calm and think clearly in emergencies

2.
ABILITY TO MAKE AND TAKE RESPONSIBILITY FOR ONE’S DECISIONS

3. Passion for safety and safety culture

4. A team-player mentality

WHAT MAKES A GOOD WSH OFFICER?



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CONTAINER THROUGHPUT GREW TO 33.7 MILLION TEUS (TWENTY-FOOT EQUIVALENT UNITS), AN 8.9% INCREASE FROM 2016.

standing strong
The Port of Singapore has continued to thrive and mature despite industry-wide difficulties in recent years. Here's 2017's performance in numbers.



Global Top 10!

SINGAPORE REGISTRY OF SHIPS - TOTAL TONNAGE CLIMBED 0.9% TO 88.8 MILLION GT (GROSS TONNAGE).

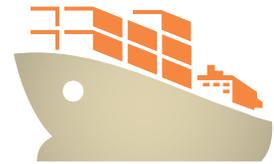


TOTAL CARGO THROUGHPUT REACHED **627.7** MILLION TONNES, A 5.8% INCREASE FROM 2016.

#1

Bunkering Port in the World

Annual bunker sales hit 50 million tonnes for the first time. Total bunker volume sold: 50.6 million tonnes, a 4.2% increase from 2016.



ANNUAL VESSEL ARRIVAL TONNAGE HIT 2.8 BILLION GT, A 5.1% INCREASE FROM 2016.



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