

SINGAPORE MARITIME WEEK 2015

01/2015 no.30



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▶ SMW's 10-year milestone

▶ MPA hydrographers aid in search and rescue mission

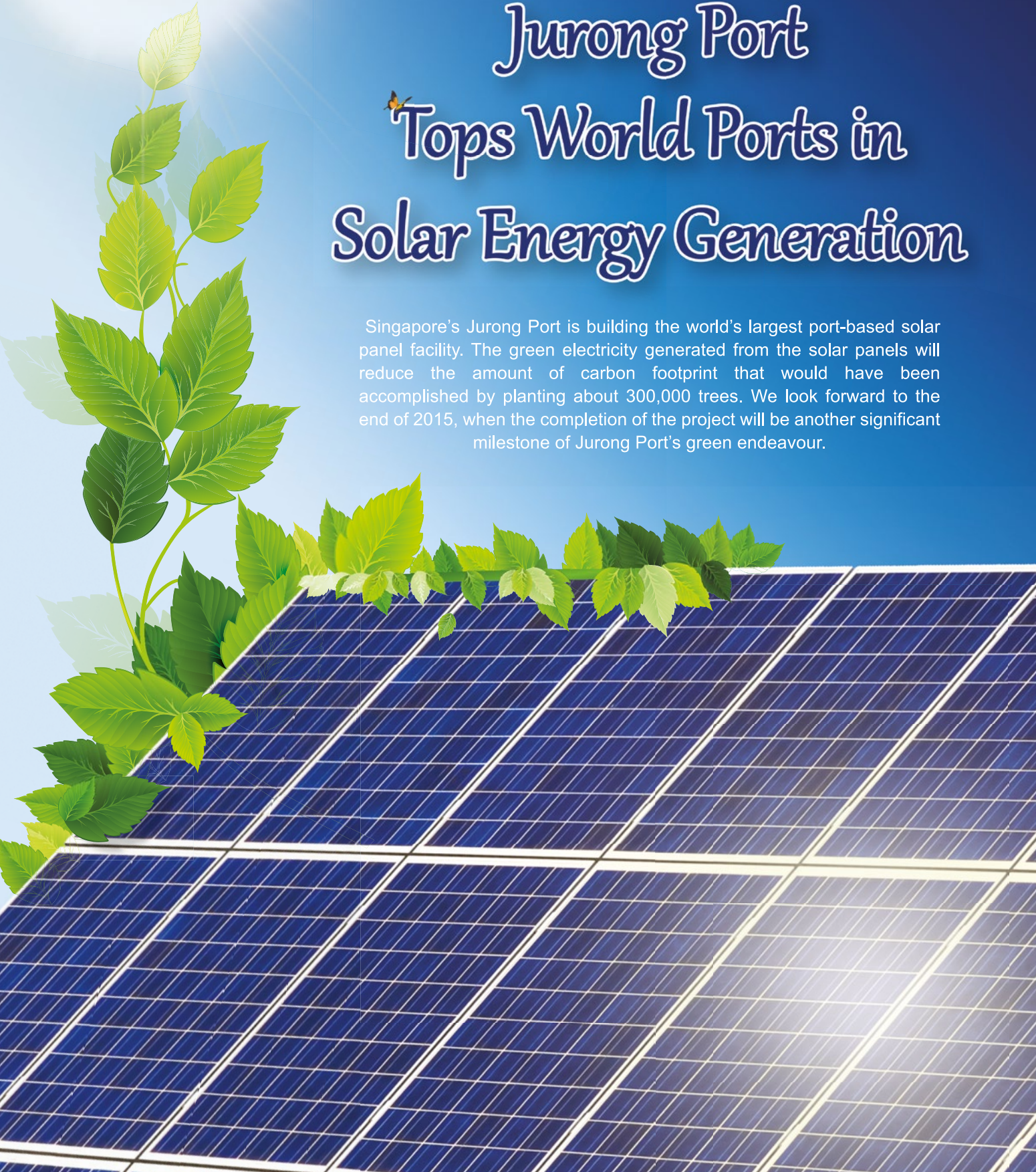
▶ Maersk's social media strategy



Jurong Port
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Jurong Port Tops World Ports in Solar Energy Generation

Singapore's Jurong Port is building the world's largest port-based solar panel facility. The green electricity generated from the solar panels will reduce the amount of carbon footprint that would have been accomplished by planting about 300,000 trees. We look forward to the end of 2015, when the completion of the project will be another significant milestone of Jurong Port's green endeavour.



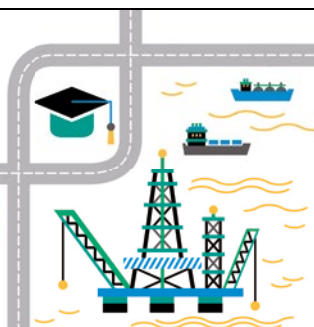
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maritime roots

publisher



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SINGAPORE

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building maritime success

Since its inaugural edition in 2006, Singapore Maritime Week (SMW), driven by the Maritime and Port Authority of Singapore (MPA), has grown steadily in size and significance every year and established itself as a premier maritime event.

The 10th annual gathering of the international and local maritime community will build on its tagline of “PEOPLE, IDEAS and OPPORTUNITIES” to offer a range of events in celebration of all things maritime. One cornerstone of SMW 2015 is the ninth Singapore Maritime Lecture, which will see eminent speakers sharing their insights on topical maritime issues. This year, we are privileged to have Mr Tung Chee Chen, Chairman and CEO of Orient Overseas (International), the parent company of Orient Overseas Container Line, as the keynote speaker.

Sea Asia 2015, being held in conjunction with SMW 2015, is back for its fifth edition. This year, as one of the most anticipated maritime industry events in Asia and offering excellent networking platforms in shipping, the biennale is expected to attract more than 14,000 participants. Read more about what’s on offer at SMW 2015 in this issue’s main feature.

The ability to stay on top of the latest developments often makes a key difference to an organisation’s success and long-term sustainability, especially for a highly competitive industry like the maritime sector. In this issue, read about how

some maritime organisations are responding to different challenges in their respective fields.

In the Commentary section, Maersk Line’s global Social Media Manager, Davina Rapaport, gives us an insider view on how Maersk Line practises public engagement in the digital age and offers salient learning points on how others can tap social media to reach a wider audience effectively.

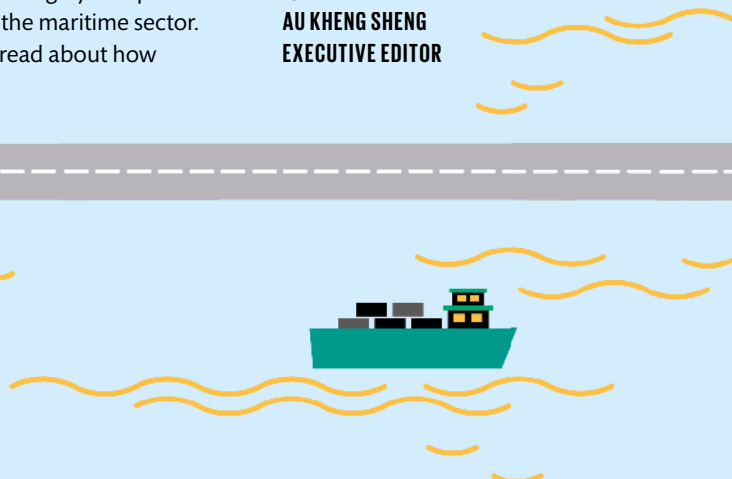
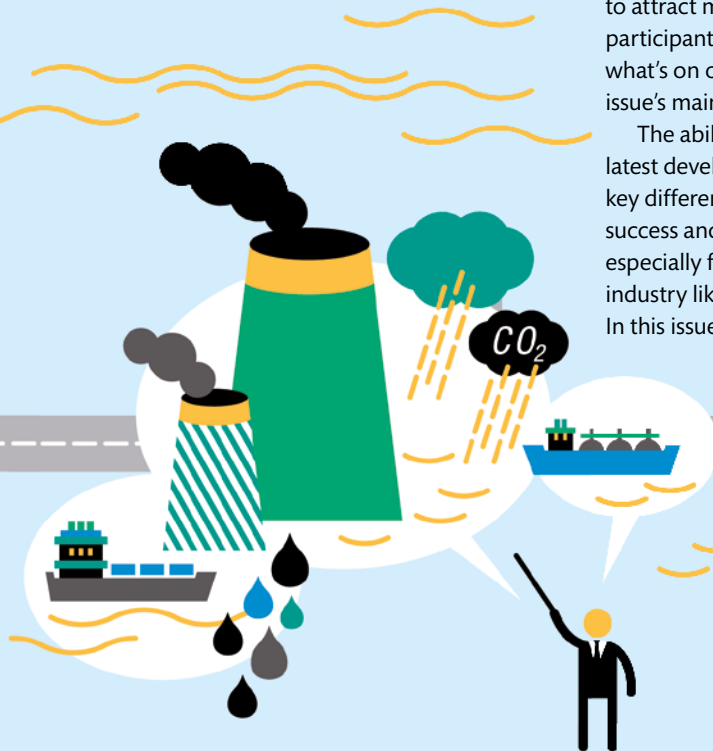
In the Company Spotlight section, BW Group Chairman Andreas-Sohmen Pao shares how the Group keeps up with the changing seascape by continually transforming itself as well as its plans for the future.

On the environmental front, read about Jurong Port’s quest to build the world’s first green berths and its initiatives to introduce other sustainability measures in this issue’s Technology section.

I hope this issue of *Singapore Nautilus* gives you plenty of food for thought.



AU KHENG SHENG
EXECUTIVE EDITOR



LIBERIA MARITIME AUTHORITY'S CHIEF EXECUTIVE VISITS SINGAPORE



The Maritime and Port Authority of Singapore (MPA) hosted Mr Binyah C Kesselly, Commissioner and Chief Executive Officer of the Liberia Maritime Authority, under its Distinguished Visitors Programme (DVP) over three days in March. In addition to his maritime portfolio, Mr Kesselly is also Chairman of the Board of Directors of the Liberia Airport Authority.

During his visit, Mr Kesselly was given an overview of MPA's work, which included a visit to key

MPA facilities such as the Port Operations Control Centre and the Integrated Simulation Centre at Singapore Polytechnic. Mr Kesselly also spoke to MPA officials on Liberia's experience in managing the Ebola outbreak, and called on Mr Pang Kin Keong, Permanent Secretary at the Ministry of Transport.

Established in 1997, the DVP aims to establish and boost long-lasting relations with senior maritime personalities and their organisations, and strengthen bilateral maritime relations.

\$S\$65M ENHANCEMENT TO GROOM LOCAL MARITIME TALENT

The Maritime and Port Authority of Singapore (MPA) will inject another S\$65 million to the Maritime Cluster Fund (MCF)-Manpower Development (MD) programme to attract and groom local talent for the maritime sector.

This brings the funds invested under this programme since 2007 to S\$115 million. The additional funding will be used to introduce new initiatives as well as to step up existing efforts.

Established in 2002, the MCF-MD programme focuses on growing a strong Singaporean core for the maritime cluster by supporting maritime companies in the development of manpower, training initiatives and capabilities. As of Dec 31 last year, about 20,000 people had benefited from co-funded training programmes supported by the MCF-MD programme.

To drive efforts in support of SkillsFuture – an education and training movement that aims to help Singaporeans continue skills development for career advancement – MPA has formed two manpower task forces: the Tripartite Maritime Manpower Taskforce for Seafaring and the Maritime Manpower Taskforce for Shore-based Sectors. Both are chaired by Mr Andrew Tan, Chief Executive of MPA.

Formed in May last year, the Tripartite Maritime Manpower Taskforce for Seafaring will develop measures to encourage Singaporeans to take up seafaring careers, facilitate their upskilling, and improve retention of seafaring talent through training grants and achievement awards.

To complement the efforts of the task force, MPA will also enhance the Tripartite Maritime Scholarship to provide more opportunities for Singaporeans to take up seafaring careers by setting aside an additional S\$6 million over the next five years to award up to 20 scholarships every year – double the number awarded in previous years. To date, more than 130 scholarships have been awarded.

The task force comprises members from MPA, the Employment and Employability Institute (e2i),

TOP LEFT Mr Binyah C Kesselly (left) with Mr Pang Kin Keong, Permanent Secretary at the Ministry of Transport. **LEFT** Mr Kesselly at MPA's Integrated Simulation Centre. **RIGHT** Mr Andrew Tan (left) with Mr Yasushi Nakamura at the signing of the MPA and ClassNK MOU.

MPA AND CLASSNK SIGN MOU TO DEVELOP MARITIME TECHNOLOGIES

the Singapore Shipping Association, the Singapore Maritime Employers Federation, the Singapore Maritime Officers' Union and the Singapore Organisation of Seamen.

The Maritime Manpower Taskforce for Shore-based Sectors, set up in November last year, will develop strategies to help maritime companies fill positions for critical shore-based jobs.

A key area that the task force will pursue is the reskilling of local talents for conversion from seagoing to shore-based jobs. The task force will also develop a conversion programme to equip non-maritime personnel with relevant skill sets to pursue a maritime career. The initial focus will be on jobs in areas such as port operations, ship operations and shipbroking.

The task force is composed of members from MPA, the Workforce Development Agency, e2i, the National Trades Union Congress, as well as key industry players and industry associations.

Mr Tan said: "The enhancement to the MCF-MD programme not only lends strong support to the national-level SkillsFuture initiative but also allows us to support more skills-based learning, upgrading, and reskilling for those who want to switch careers."

More initiatives for manpower development will be announced in the coming months.

In February, the Maritime and Port Authority of Singapore (MPA) and ship classification society ClassNK signed a memorandum of understanding (MOU) to collaborate on maritime technology research and development (R&D) to enhance ship safety and environmental sustainability.

The MOU – the first to be established between MPA and ClassNK – was signed by Mr Andrew Tan, MPA Chief Executive, and Mr Yasushi Nakamura, ClassNK Representative Director and Executive Vice President, at the Green & Smart Shipping Seminar organised by ClassNK.

Encompassing R&D in areas such as environmentally friendly ships and marine renewable energy, the MOU will see both organisations promote and share maritime thought leadership on

technology through activities such as conferences, workshops and joint R&D projects. Said Mr Tan: "The signing of this MOU is a reflection of the emphasis we place on innovation and R&D, and signifies a shared vision of making the industry safer, more efficient, and greener."

The MOU builds upon recent collaboration between MPA and ClassNK in maritime R&D. Co-sponsored by MPA under its Maritime Innovation and Technology Fund, these include the Real Time Ship Exhaust Gas Monitoring project to better gauge the efficacy of emissions abatement technologies and align its performance to meet emission regulations, and the Zero-Emission Desulphurisation Process and Pilot Scale Demonstration project, which seeks to improve current sulphur oxide emission control and management efforts.

Mr Nakamura said: "ClassNK has collaborated with MPA before and through this MOU, we aim to further strengthen our relationship and work towards the shared goal of creating a smarter, safer, and greener maritime industry."

The signing ceremony also marked the opening of the new ClassNK Global Research and Innovation Centre, ClassNK's first research centre outside of Japan. It will carry out research with industry partners, academics and government agencies in Singapore and from around the world on various projects.



SHIP'S LOG HAPPENINGS

DEPUTY PRIME MINISTER VISITS POCG-VISTA



Deputy Prime Minister Teo Chee Hean and leaders of the labour movement visited about 100 workers in the maritime and port industry on Feb 19 to thank them for their dedication. He also joined them in tossing *yu sheng* to usher in the Year of the Goat at the Port Operations Control Centre-Vista.

LUNAR NEW YEAR MEDIA APPRECIATION LUNCH



The Maritime and Port Authority of Singapore (MPA) hosted a Lunar New Year lunch at Customs House on Feb 25 for its friends in the media to express its appreciation for their strong support over the years. Mr Lucien Wong, MPA Chairman, outlined key highlights for MPA this year during his welcome remarks.



*Whilst Others Promise to Deliver,
We Deliver Our Promise*



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Prosper Marine Pte Ltd
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Singa Ship Management
Stellar Shipmanagement Services Pte Ltd
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Unix Line Pte Ltd
Wilhelmsen Ships Service (S) Pte Ltd
Wisdom Lines (Asia) Pte Ltd

Marina Bay Sands
Mandarin Orchard Singapore
Shangri-La Hotel, Singapore
Shangri-La's Rasa Sentosa Resort & Spa, Singapore
Hotel Jen
The Ritz-Carlton, Millenia Singapore
Raffles Hotel Singapore
Grand Hyatt Singapore
Swissôtel The Stamford
Swissotel Merchant Court Singapore

Fairmont Singapore
Hilton Singapore
Conrad Centennial Singapore Hotel
Capella Singapore
Crowne Plaza Changi Airport
Moevenpick Heritage Hotel Sentosa
Sheraton Towers Singapore

Sofitel So Singapore
Park Regis Singapore
Hotel Rendezvous
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Orchid Hotel
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Broadway Hotel
Carlton Hotel
Classique Hotel
Changi Cove
Farrer Hotel

Alexandra Hospital
Changi General Hospital
Farrer Park Medical Centre
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Jurong Medical Centre
Jurong Community Hospital
Institute of Mental Health
NUH Medical Centre
Tan Tock Seng Hospital
Ng Teng Fong Hospital
Jurong Clinic for Women
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marking a milestone

With Singapore Maritime Week entering its 10th edition, Alywin Chew finds out what this year's line-up has to offer



2006

Singapore became the first Asian host for the International Maritime Organization's World Maritime Day, which also saw parallel celebrations held at the organisation's London headquarters.



2006

The inaugural SMW featured nine main events and attracted over 2,900 participants.

MARITIME SINGAPORE



2007

The inaugural Singapore Maritime Lecture was delivered by former Prime Minister Lee Kuan Yew.

Singapore's transformation from a small fishing village to a world-class city is an achievement that has been heralded around the world. As the nation celebrates its 50th birthday this year, its thriving maritime sector – which contributes to a significant 7 per cent of its GDP – should be recognised for playing a part in the country's success story.

Despite its meteoric rise over the decades, the industry has never once rested on its laurels. It's therefore a fitting birthday present to the nation that Singapore was once again the world's top bunkering port in 2014, in addition to enjoying excellent growth in container and cargo throughput, as well as in annual vessel arrival tonnage.

Another testament to the vibrancy and success

of the sector is the annual Singapore Maritime Week (SMW). Taking place from April 19 to 24, with events held at various venues including an exhibition at Marina Bay Sands Event Plaza, SMW will be celebrating its 10th anniversary this year. The event has grown by leaps and bounds since 2006 to become one of the region's largest and most influential industry events.

Staying true to its central ideas of PEOPLE, IDEAS and OPPORTUNITIES, the eventful week will feature a good mix of high-level conferences, social events and dialogue sessions, fostering communication and collaboration between members of the international maritime community, as well as allowing the public to learn more about Singapore's maritime heritage through a slew of activities and exhibitions.

FEATURE

20,000



2014

With a range of 29 events, SMW saw a turnout of over 20,000 maritime representatives.



2011

More than 70 participants spent 300 man-hours building a mural of the maritime industry with more than 100,000 Lego pieces.



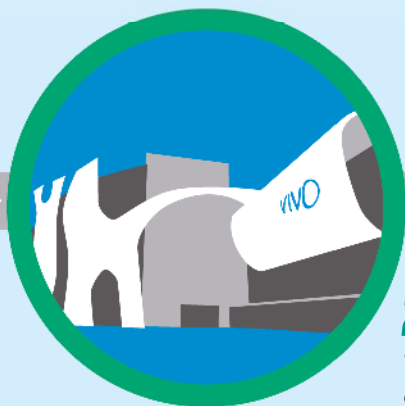
2014

The launch of the first Singapore Maritime Trails, showcasing Singapore's maritime history.



2014

Over 100,000 visitors attended the SMW public exhibition, which included similar satellite exhibitions in other parts of Singapore.



2008

The first SMW public exhibition at VivoCity drew some 12,500 visitors.



PEOPLE

People have always been a key factor in Singapore's success and in the drawing of local talent to the maritime sector.

The latter is done through activities and outreach programmes such as the SMW Maritime Learning Journeys, which provide participants with an opportunity to catch a glimpse of maritime operations in the Port of Singapore via tours. Activities lined up for the learning journey include a trip out to sea, a visit to Raffles Lighthouse, and a tour of the Singapore Maritime Gallery.

As at previous editions of SMW, there will also be events this year that reach out to the public in an engaging manner. Titled From A Trading Post To Global Hub, the SMW 2015 Exhibition at the Marina Bay Sands Event Plaza will showcase everything visitors need to know about Singapore's maritime heritage.

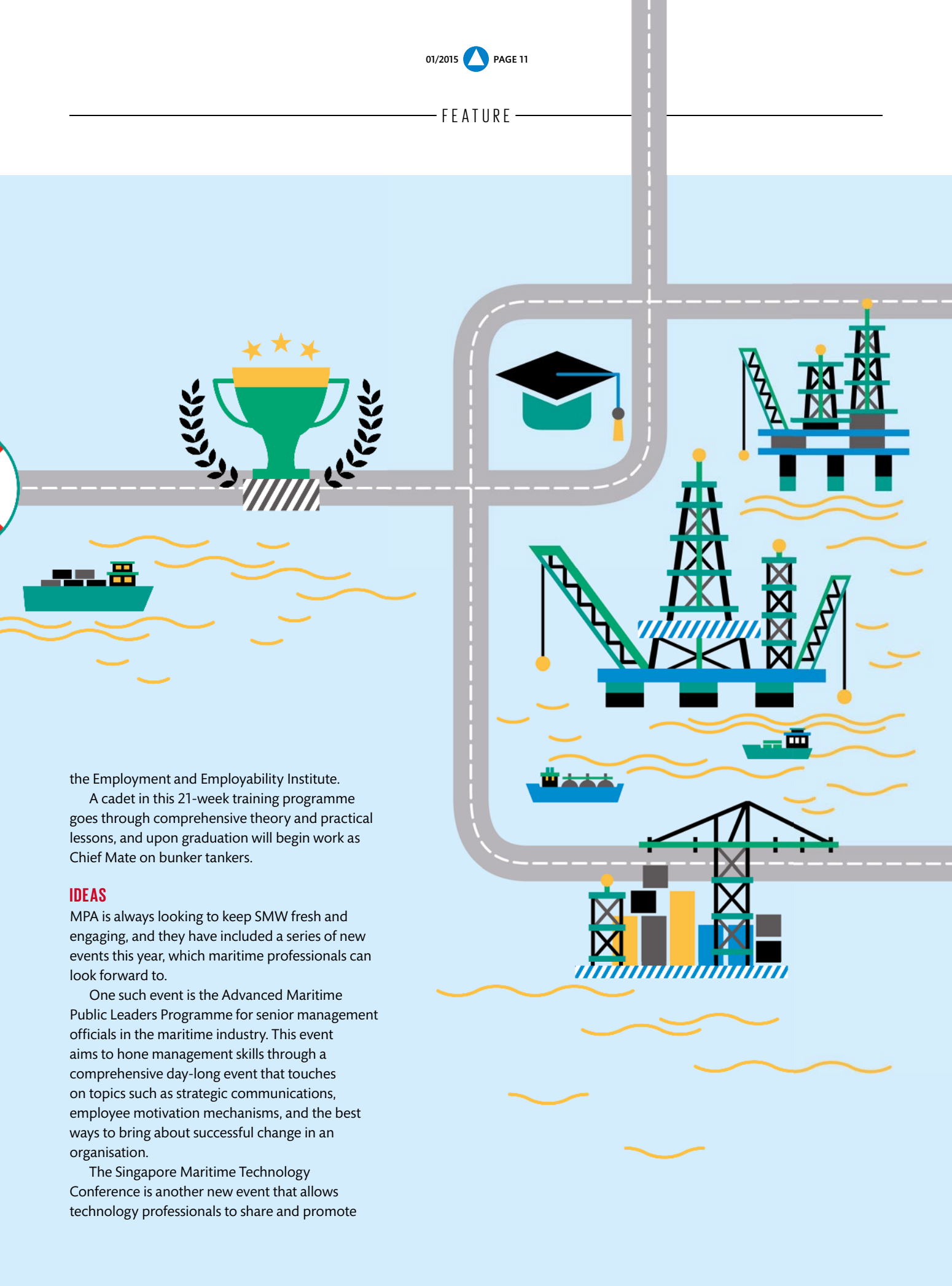
The exhibition will focus on Singapore's historical, social and economic significance as an international maritime centre and global hub port, tracing the country's evolution from a colonial

trading post to the world-class maritime hub that it is today.

Organisers have set up numerous fun and interactive elements in five distinct zones that will each focus on a particular element in the industry, allowing students, industry professionals and members of the public to easily understand the maritime ecosystem in Singapore and how it relates to their daily lives.

The exhibition ends with an open-ended question – "What's the next big step for Maritime Singapore?" – highlighting the fact that its transformation is an ongoing process and that the port is part of people's everyday narratives.

On April 21, the maritime community will welcome its latest batch of members at the Certificate of Competency (Special Limits) Graduation Ceremony. There will be more than 250 Singaporean cadets graduating from their Special Limits programmes, which were launched by the Maritime and Port Authority of Singapore (MPA), in partnership with institutes such as the Singapore Workforce Development Agency and



the Employment and Employability Institute.

A cadet in this 21-week training programme goes through comprehensive theory and practical lessons, and upon graduation will begin work as Chief Mate on bunker tankers.

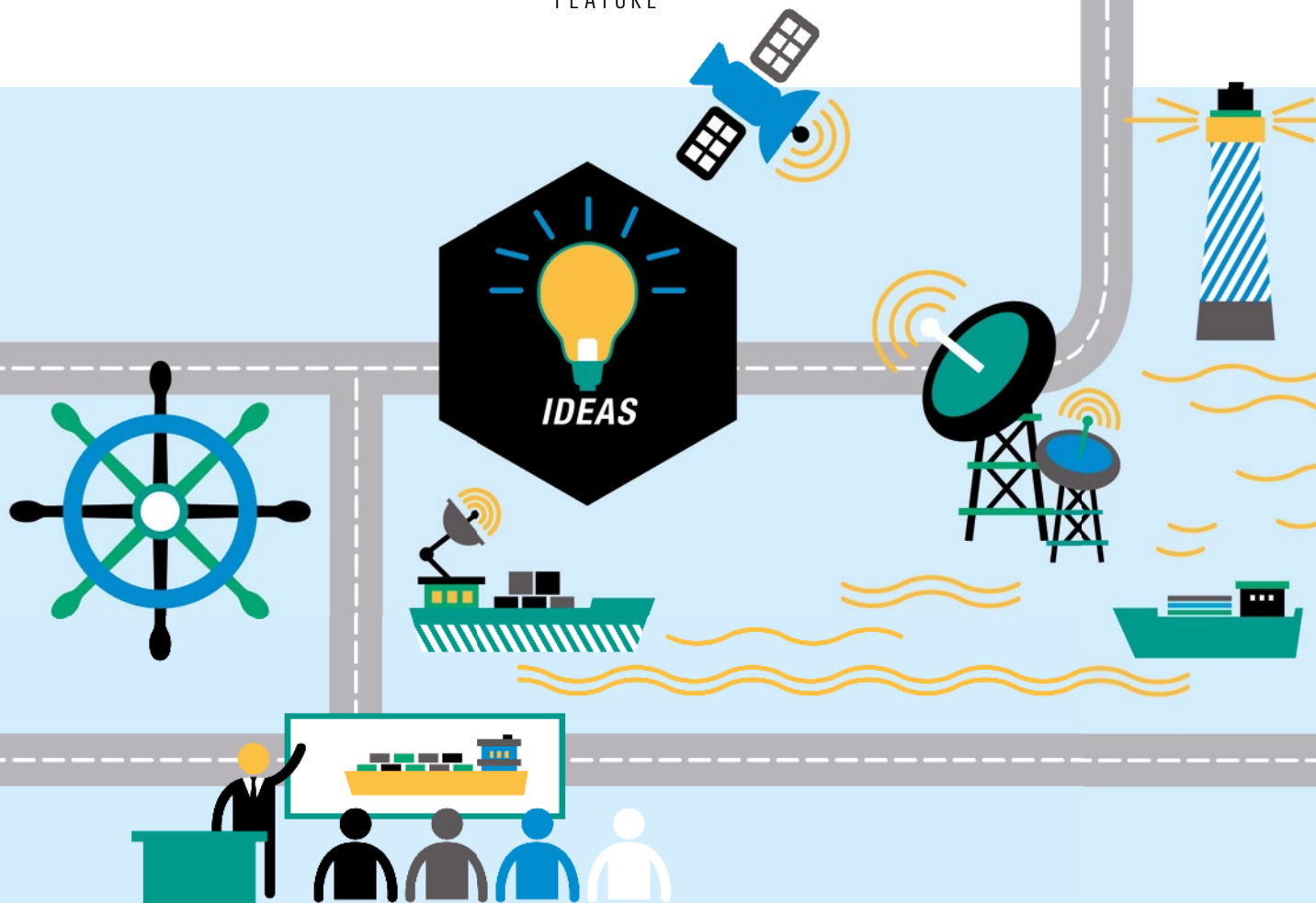
IDEAS

MPA is always looking to keep SMW fresh and engaging, and they have included a series of new events this year, which maritime professionals can look forward to.

One such event is the Advanced Maritime Public Leaders Programme for senior management officials in the maritime industry. This event aims to hone management skills through a comprehensive day-long event that touches on topics such as strategic communications, employee motivation mechanisms, and the best ways to bring about successful change in an organisation.

The Singapore Maritime Technology Conference is another new event that allows technology professionals to share and promote

FEATURE



their innovations, and includes an exhibition that will display the latest solutions, technologies and test-bedding capabilities.

Also making its debut at SMW is the Port Authorities Roundtable, a unique summit for senior officials to network and share their insights on a wide variety of strategic issues pertaining to the regional and international maritime industry. The platform encourages thought leadership in key areas of future-ready infrastructure, technology, safety, efficiency and sustainability.

This year will mark the ninth edition of the Singapore Maritime Lecture, a flagship event catered to maritime professionals. The lecture has always been SMW's annual anchor programme, and is known for attracting high-profile individuals to share their insights on maritime issues.

Head honchos such as the CEO of the A.P. Moller-Maersk Group, Nils Smedegaard Andersen, the former Secretary-General of the International Maritime Organization (IMO),

Efthimios Mitropoulos, and Singapore's former Prime Minister, Lee Kuan Yew, took the podium in previous years.

This year, we are privileged to have Tung Chee Chen, Chairman and CEO of Orient Overseas (International), the parent company of Orient Overseas Container Line, as the keynote speaker.

OPPORTUNITIES

There will also be elements of glitz and glamour for industry professionals at the Singapore International Maritime Awards, which will be attended by more than 700 key maritime officials. The event rewards those who have made significant contributions to the maritime industry in maintaining Singapore's status as a global maritime hub. Seven awards, such as the International Maritime Centre Award, will be given away, in addition to the Singapore Registry of Ships' Green Ship of the Year Award, which was first introduced in 2013.

SEA ASIA 2015

Taking place from April 21 to 23 at the Sands Expo and Convention Centre at Marina Bay Sands, Sea Asia 2015 is one of SMW 2015's main highlights.

Now in its fifth edition, this biennial convention is co-organised by Seatrade and the Singapore Maritime Foundation. The convention gives maritime professionals from different sectors a prime opportunity to network and talk shop with counterparts from all over the world.

Sea Asia has seen increasing success over the years and speaks volumes about Singapore's reputation as a maritime hub that is capable of attracting top industry professionals to showcase their latest offerings.

The convention also acts as a prime platform for Asian voices to be heard in world shipping, as Seatrade Chairman

Chris Hayman notes: "With Asia now fully established as the epicentre of world shipping, it has never been more important for the voice of Asia's maritime industry to be clearly heard around the world.

"The growing international registration for Sea Asia shows that this event is seen as a unique opportunity to hear from Asian thought leaders."

The previous edition in 2013 attracted more than 13,000 participants from 68 countries, and featured 385 maritime companies from 39 countries. Hayman reveals that this year's exhibition will be 30 per cent larger in terms of gross exhibition space, now over two floors, to accommodate greater interests and showcase even more services and new products.

Apart from the exhibits, there will

also be a series of insightful conferences, including the Sea Asia Global Forum, taking place on opening day. This session, which traditionally draws top maritime leadership, will include an analysis of the shipping industry's challenges in light of current global economic factors, such as crude oil prices, shipping regulations, and the ongoing shale revolution.

This year's speakers include Christian Clausen, President and Group CEO of Nordea Bank, Claus V Hemmingsen, Member of the Executive Board of A.P. Moller-Maersk Group and CEO of Maersk Drilling, Andreas Sohmen-Pao, Chairman of BW Group, and Teo Siong Seng, Managing Director of Pacific International Lines.

On the second day of the convention, IMO Secretary-General

Koji Sekimizu will be giving the keynote speech at the Offshore Marine Forum. This forum will focus sharply on the commercial, financial, technical, and operational conditions for the maritime sector as it learns to live with the new oil price environment.

The final day of the convention will see industry experts sharing insights on ship financing and LNG transportation, and the closing session will focus on how the maritime sector can continue to forge ahead while leveraging green technology and optimal training for seafarers.

Says Hayman: "For an industry as complex and changeable as shipping, the need for interaction and the exchange of views has never been greater...it is our objective to make this year's event the busiest and best attended event so far."



FEATURE

THU
16 APRIL

FRI
17 APRIL

SAT
18 APRIL

SUN
19 APRIL

MON
20 APRIL

SMW Maritime Learning Journeys
Singapore Maritime Gallery and Raffles Lighthouse

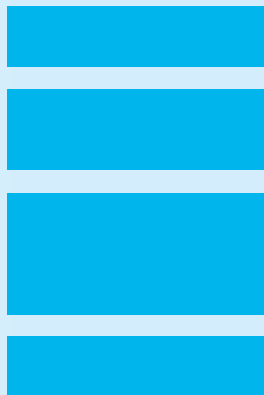
Launch of SMW 2015
Event Plaza, Marina Bay Sands

**Opening Ceremony for
Advanced Maritime
Leaders Programme**
Conrad Centennial
Singapore

**Opening Ceremony
for Port Authorities
Roundtable**
Sands Expo &
Convention Centre,
Marina Bay Sands

Advanced Maritime Leaders Programme
Multiple venues

**Port Authorities
Roundtable**
Sands Expo &
Convention Centre,
Marina Bay Sands



SINGAPORE MARITIME WEEK 2015

**Closing Dinner for Port
Authorities Roundtable**
Table At 7

FEATURE

TUE 21 APRIL	WED 22 APRIL	THU 23 APRIL	FRI 24 APRIL	SAT 25 APRIL	SUN 26 APRIL
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SMW Maritime Learning Journeys
Singapore Maritime Gallery and Raffles Lighthouse

SMW 2015 Exhibition
Event Plaza, Marina Bay Sands

Opening Ceremony for Sea Asia 2015
Sands Expo & Convention Centre, Marina Bay Sands

Opening Ceremony for International Chemical & Oil Pollution Conference & Exhibition (ICOPCE) 2015
Sands Expo & Convention Centre, Marina Bay Sands

Opening Ceremony for Singapore Maritime Technology Conference
Sands Expo & Convention Centre, Marina Bay Sands

ICOPCE 2015
Sands Expo & Convention Centre, Marina Bay Sands

Sea Asia Exhibition
Sands Expo & Convention Centre, Marina Bay Sands

ISSA Convention & Trade Exhibition 2015
Resorts World Sentosa

Mission RASI
The Royal Albatross Yacht

Singapore Maritime Technology Conference
Sands Expo & Convention Centre, Marina Bay Sands

2nd Annual Offshore Marine Crewing & Manning 2015
Sands Expo & Convention Centre, Marina Bay Sands

Asian Marine Casualty Forum
The Fullerton Hotel

6th Annual FPSO Conference
Sands Expo & Convention Centre, Marina Bay Sands

Moore Stephens Shipping Conference
InterContinental Singapore

14th MPA Bunker Forum
Furama City Centre

7th Annual Offshore Support Vessels Conference
Sands Expo & Convention Centre, Marina Bay Sands

ReCAAP ISC
Sands Expo & Convention Centre, Marina Bay Sands

Certificate of Competency (Special Limits) Graduation Ceremony
Singapore Polytechnic Auditorium

7th Annual Offshore Drilling & Rigs Conference
Sands Expo & Convention Centre, Marina Bay Sands

7th Asian Maritime Law Conference
Supreme Court Auditorium, Singapore

InterMET Asia 2015
Suntec Singapore Convention and Exhibition Centre

TOC Asia 2015
Sands Expo & Convention Centre, Marina Bay Sands

Singapore International Maritime Awards 2015
The Ritz-Carlton

MOU signing between MPA & WMU
The Fullerton Hotel

Singapore Maritime Lecture
The Fullerton Hotel

Norway Night
Lantern @ The Fullerton Bay Hotel

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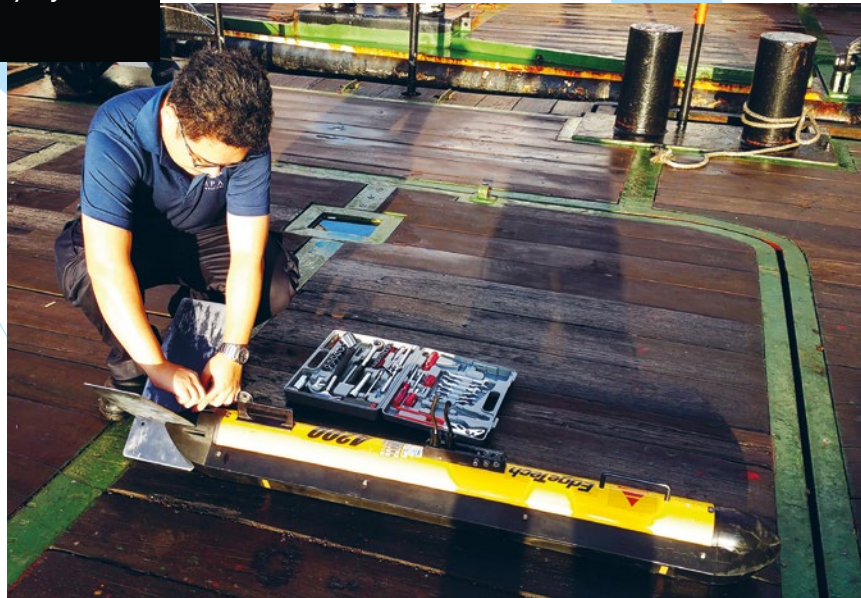
BY
REGISTRATION

rising to the occasion

Denyse Yeo speaks with a hydrographer from the Maritime and Port Authority of Singapore to find out how his team's skills were put to the test during the multinational search operations for the AirAsia flight that crashed in the Java Sea last December

EQUIPMENT USED

The standard equipment a hydrographer uses to carry out his work includes a side scan sonar (right) that detects objects on the seabed, a multibeam echo-sounder sonar to detect and measure depths underwater, and a remotely operated vehicle (far right) to verify any objects found underwater.



PORT & STARBOARD

As a hydrographic surveyor with the Maritime and Port Authority of Singapore (MPA), Thomas Tan's usual routine at work involves charting the seabed with special tools so that ships can navigate Singapore's waters safely.

But on New Year's Eve last year, Tan, who is a Senior Technical Officer in MPA's Hydrographic Department, received a call requesting his expertise and equipment. He was asked to join the multinational search for the black box data recorders of downed AirAsia Flight QZ8501. The plane had been flying from Surabaya to Singapore on Dec 28 when it crashed into the Java Sea due to stormy weather, killing all 162 people on board.

Just hours after the call, Tan had packed his bags and left for Pangkalan Bun in central Kalimantan as part of a 12-man team from Singapore, comprising five other colleagues from MPA as well as aviation experts from the Ministry of Transport's Air Accident Investigation Bureau and the Civil Aviation Authority of Singapore.

Recalling the sombreness of the situation on a day usually spent with friends and family ushering in the new year, Tan says: "Most of us kept to ourselves. We were preoccupied with our own thoughts, but we were determined to go there and see the mission through."

DIFFERENT CONDITIONS

Except for team leader Jamie Chen, Deputy Chief Hydrographer at MPA, the MPA team was new to overseas air crash operations. Chen had been part of the team that searched for the wreckage of SilkAir Flight MI185, which crashed in the Musi River near Palembang on Dec 19, 1997.

Says Tan: "Is it any different from what we were doing back in Singapore? I say no, because everybody is familiar with their role and the way we carry out a systematic search. We have been trained to competently carry out search operations on very short notice."

It was only when Tan and his colleagues reached the crash site on Jan 6, after days of poor weather conditions



FAR LEFT An MPA hydrographer prepares to launch the side scan sonar.

that forced them to turn back to Kumai Port in Pangkalan Bun several times, that they realised how challenging the situation was.

The search area was immense, at 144 sq km. The team also had to do their job in rough water conditions, with swells of three to four metres. The currents there were also fast moving, at up to five knots, compared to the usual two to three knots they had experienced in Singapore waters.

On the search vessel *KN Jadayat* – one of two Indonesian vessels that the Singapore team operated on – the 5m-long platforms that were being used to lower equipment into the water were also more than twice as long as the 2m-long ones the team was used to back home.

These factors meant that routine activities such as lowering the side scan sonar, which weighs between 38kg to 48kg, into the water and retrieving it were physically challenging, says Tan, who has been with MPA for 20 years.

For days, Tan and the others on board the *KN Jadayat* worked 12- to 16-hour days, sleeping in the living quarters of the vessel. They kept in touch with their families through phone calls via satellite phone almost every day.

ROTATING DUTIES

The most difficult part of the experience for Tan was not physical but emotional. He says: "It was the anxiety, the pressure to find the black boxes. From watching the news, we knew that the families wanted to find out what actually happened with the plane, but only the black boxes could reveal this information.

"We were out there recovering things and we could feel the pressure from them, wanting answers as soon as possible. That weighed on us. Everything was centred on the operation. I felt a sense of mission, a need to accomplish this massive task that had been given to us."

Tan rotated different duties with other people on the ship, including looking after the side scan sonar and monitoring the sonar images for signs of the wreckage. His non-standard duties included coordinating with the 15 to 20 other vessels in the area, to keep safe distances and prevent collisions with one another within the search area.

Says Tan: "We rotated our roles interchangeably. We had to change roles because if you were to look at a screen for too long, you would get motion sickness.

If you were on deck for too long, you would get physically tired. So, we played every role and sometimes doubled up for each other."

"FROM WATCHING THE NEWS, WE KNEW THAT THE FAMILIES WANTED TO FIND OUT WHAT ACTUALLY HAPPENED WITH THE PLANE, BUT ONLY THE BLACK BOXES COULD REVEAL THIS INFORMATION... THAT WEIGHED ON US... I FELT A SENSE OF MISSION, A NEED TO ACCOMPLISH THIS MASSIVE TASK THAT HAD BEEN GIVEN TO US."

**THOMAS TAN, SENIOR TECHNICAL OFFICER,
MPA'S HYDROGRAPHIC DEPARTMENT**



ABOVE Thomas Tan (right) was welcomed home by Transport Minister Lui Tuck Yew (in grey) at Singapore Changi Airport on Jan 15.

RIGHT Members of the Singapore search team arriving back at Singapore Changi Airport.



When the two black boxes – a flight data recorder and a cockpit voice recorder – were found on Jan 12 and 13, there was “relief all around”. The flight data from the black boxes would provide important clues to the crash investigators. Says Tan: “Everybody gave one another pats on the back. Our Indonesian colleagues were appreciative of our help and we were happy to have played a part. Everybody felt relief and pride at the same time.”

Summing up his experience of working in a multinational search team, Tan says he gleaned new insights from his comrades on board.

He adds: “The aviation experts provided their advice on the likely position of the plane. The Indonesians were dedicated and willing, and worked tirelessly day in and day out. We learned to operate a vessel under harsh conditions, with the swells. The divers from the Indonesian Navy risked life and limb to dive in those conditions, with those strong currents.

“It gave us a new perspective on how an underwater search is conducted and coordinated, in this case, in a larger area and in more difficult conditions.”



committed to maritime excellence

Audrina Gan finds out how the Singapore Maritime Academy keeps to its mission to nurture future mariners for the industry with the help of innovative programmes and technologies

Learning how to sail a ship without an engine and climbing up the mast of the *STS Pallada*, the world's fastest sailing tall ship, is the opportunity of a lifetime for students of the Singapore Maritime Academy (SMA) at Singapore Polytechnic (SP).

One of several out-of-classroom SMA programmes to give

students a practical understanding of the maritime industry, the annual training on board the 110m-long *STS Pallada* is the result of a collaboration between SMA and the Far Eastern State Technical Fisheries University (FESTFU) of Vladivostok in Russia.

Every year, 30 SMA diploma students – a significant number

MARITIME SERVICES

of whom are female – get to learn about seamanship, day-to-day operations and maintenance on board the three-mast training vessel, which belongs to FESTFU.

Other programmes include a four-day learning stint on a luxury cruise ship – a collaborative effort with Star Cruises since 2004 – under SMA's Maritime Experiential Learning Camps.

During the trip, students experience the operation of a large cruise ship, as well as other aspects of Singapore's maritime industry.

TRAINING MARINERS

The academy was formed in 2000, when two institutions under SP and the Maritime and Port Authority of Singapore (MPA) merged. Prior to that, the training of mariners in Singapore actually dated back to colonial days. SP took over this training role in 1957.

The SMA was started with the primary objective of producing seafaring officers who could operate ships in a competent and safe manner, and to equip them with the necessary experience and communication skills to become sea captains.

Today, SMA

remains at the forefront of maritime education and training. It offers diploma courses in marine engineering, maritime business and nautical studies, as well as a comprehensive range of professional maritime courses.

Currently, it has over 1,000 full-time students in three diploma programmes and some 460 post-diploma students attending professional courses for different levels of Certificates of Competency (CoC). These prepare candidates to qualify as seafaring officers up to the ranks of captain and chief engineer.

MOVING AHEAD

Roland Tan, the Director of SMA for the past 10 years, is confident that Captain Mohd Salleh, who took over the reins of SMA on April 1, will bring SMA to greater heights. One of the reasons for SMA's success in attracting students, says Tan, is that it has been quick in providing relevant courses that are in demand.

For example, it collaborated with safety training provider SMTC Global to set up the SMA-SMTC Safety Training Centre (SSSTC) at Poly Marina – SMA's seamanship training

centre – to offer safety courses for the offshore industry.

One such course conducted at SSSTC is the Helicopter Underwater Escape Training. Taking place in a 3m-deep tank, participants are trained to evacuate safely from a helicopter in the event of a crash.

It is mandatory for all personnel working on offshore oil rigs to be certified in this course as the main mode of transportation to an offshore oil rig is via helicopter.

The academy also prides itself on its state-of-the-art training facilities that range from navigation

BELOW Students train with state-of-the-art facilities. **BOTTOM** Cadets and a SMA lecturer on board SP @ Dover, SMA's own training vessel.





simulators to learning laboratories, as well as its industry collaborations for the purpose of setting up highly sophisticated facilities.

To meet the increasing demand of people wanting to upgrade themselves, but who are unable to study on campus, SMA has also developed e-learning facilities, so students can work on CoC

courses from home, at work, or wherever else they may be.

RIDING ON INNOVATION

Capt Mohd Salleh highlights that SMA even uses animation to enhance the learning experience. This makes it easier for students to grasp concepts such as the effects of shallow water on ship navigation, or to learn how to steer a ship through a

winding river.

The way forward for SMA, he says, is to keep up with the latest technological developments, while staying true to its mission to train maritime professionals for the industry.

The academy is also constantly looking out for partnerships with other reputed institutes of higher learning to provide more upgrading

opportunities to SMA graduates.

MORE INTEREST

In fact, while there used to be a dearth of locals keen to join the maritime sector in the past, Tan says this has changed as more young Singaporeans realise that it offers a stable salary and promising career prospects.

This is actually reflected in the

MARITIME SERVICES



SMA REMAINS AT THE FOREFRONT OF MARITIME EDUCATION AND TRAINING. IT OFFERS DIPLOMA COURSES IN MARINE ENGINEERING, MARITIME BUSINESS AND NAUTICAL STUDIES, AS WELL AS A COMPREHENSIVE RANGE OF PROFESSIONAL MARITIME COURSES.

CLOCKWISE FROM TOP
The Electronic Navigation Simulator trains students in the proper and safe use of electronic navigation systems; one of the out-of-classroom learning programmes at SMA gives students a chance to learn about the operation of a large cruise ship; the Engine Room Simulator at SMA; SMA students are eligible for scholarships such as the MaritimeONE Scholarship awarded by maritime companies.

higher number of applications from O-level holders choosing SMA courses as their first choice for tertiary studies in recent years.

The number of local graduates for the CoC courses has also gone up since the introduction of courses for Chief Mates (Special Limits) and Marine Engineer Officers (Special Limits), which only

admit Singaporeans and permanent residents.

Looking ahead, Capt Mohd Salleh is confident that SMA's multi-disciplinary approach will ensure students are well equipped to fulfil the challenging roles in maritime services.

He says: "We tell our students that they can have multiple career choices when they graduate, and that

their career prospects do not just hinge on paper qualifications. Unlike some industries, the career progression in the maritime industry is very structured and promising - provided you stay in it long enough and upgrade yourself regularly. For instance, it takes a diploma graduate about seven to 10 years to become a ship's captain or chief engineer."

During a three-day visit to Singapore in early March, Binyah C Kesselly, Commissioner and Chief Executive Officer of the Liberia Maritime Authority (LiMA), was given an overview of the work of the Maritime and Port Authority of Singapore (MPA). This included a visit to key MPA facilities such as the Port Operations Control Centre and the Integrated Simulation Centre at Singapore Polytechnic. Kesselly, who is also Chairman of the Board of Directors of the Liberia Airport Authority, shared insights on Liberia's experience in managing the Ebola outbreak in West Africa. He talks to Singapore Nautilus about lessons learnt from the Ebola outbreak, the state of the Liberian Registry, which is now the second largest ship registry in the world and which accounts for more than 10 per cent of the world's fleet tonnage, and building stronger ties with Singapore's maritime sector.

WHAT WAS YOUR MOST VALUABLE TAKEAWAY FROM MANAGING THE EBOLA OUTBREAK SITUATION?

What was really important to the people of Liberia was the confidence of their leadership in managing the outbreak – a tremendous quality that we saw demonstrated in our President, Ellen Johnson Sirleaf. The thing I respect most about the President, given this difficult situation, was that there never was a point when she pretended that she knew all the answers or had all the solutions.

What I found really poignant was the teamwork – how we all came together, not just as the board of the airport authority or

the maritime authority, but as a whole country. Teamwork is critical.

WHAT WAS THE TOUGHEST CHALLENGE YOU'VE FACED?

It was to identify the measures needed to be implemented at the airport. Our job as the Liberian Airport Authority was to swiftly, rationally and effectively come up with measures to restore public confidence and allay fears, and be very deliberate as to how we took those actions. Within 48 hours, measures were drafted for an Ebola screening protocol, which were then implemented across the international airports in Monrovia. These measures subsequently flowed down to the seaports.

sharing maritime knowledge

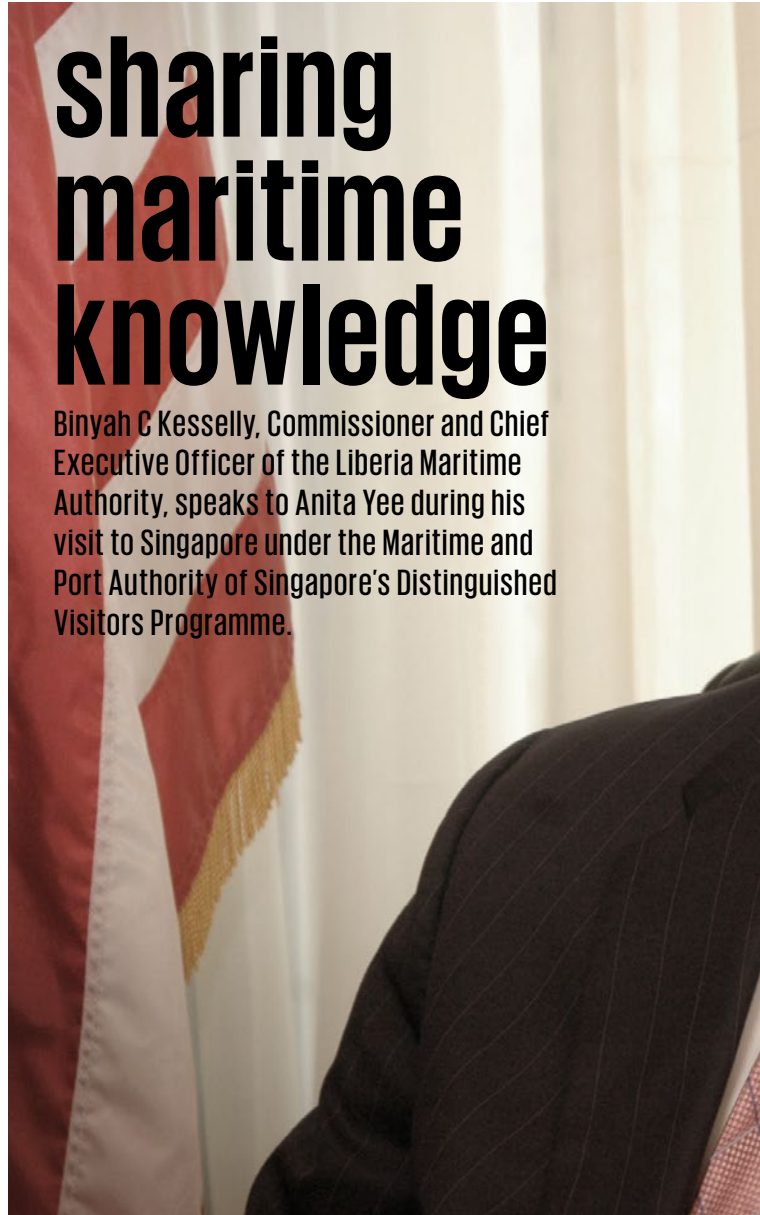
Binyah C Kesselly, Commissioner and Chief Executive Officer of the Liberia Maritime Authority, speaks to Anita Yee during his visit to Singapore under the Maritime and Port Authority of Singapore's Distinguished Visitors Programme.

IN LIGHT OF THE EBOLA OUTBREAK, WHAT WERE SOME OF THE EFFORTS TAKEN BY LIMA TO IMPROVE THE STANDARDS OF THE LIBERIAN REGISTRY?

It managed the perception and image of the country by making sure that proper information was being shared with shipowners, ship

handlers, shipbrokers, ship financiers, lawyers – all those in the international maritime community who make decisions about flying the Liberian flag.

I think the most important thing we could have done – and did – during the Ebola outbreak was to share information properly. I think that went a long





“WHAT I FOUND REALLY POIGNANT WAS THE TEAMWORK - HOW WE ALL CAME TOGETHER, NOT JUST AS THE BOARD OF THE AIRPORT AUTHORITY OR THE MARITIME AUTHORITY, BUT AS A WHOLE COUNTRY.”

BINYAH C KESSELY, COMMISSIONER AND CHIEF EXECUTIVE OFFICER OF THE LIBERIA MARITIME AUTHORITY

way because it not only highlighted the efforts that were being undertaken by the government and also by LiMA, but also gave shipowners some level of assurance.

WHAT ARE SOME OF THE AREAS IN WHICH YOU SEE OPPORTUNITIES FOR SINGAPORE AND

LIBERIA TO IMPROVE MARITIME RELATIONS AND FOSTER COOPERATION?

First - training. Singapore is the epitome of a maritime nation with cutting edge operations. Those who want to understand how to get to where it is will need to pay very close attention to the lessons it has learned.

Singapore definitely has best practices and there's a need for knowledge transfer. For a long time, this has been in one direction only because of the gap in experience. But as time passes, there will be some balance in the exchange of knowledge. Programmes like MPA's Distinguished Visitors Programme definitely provide greater access to information, as well as opportunities to share ideas on how best practices can be developed.

Another area is collaboration at the level of the International Maritime Organization, as we look at decisions that are being taken, not only for council membership, but also on how we grow as a specialised agency of the United Nations. I think the list is endless and heavily dependent on how we want to see this sector grow.

WHAT HAS LEFT AN IMPRESSION ON YOU DURING THIS TRIP?

Officially, this is my first trip to Singapore. The country is impressive; just look at the level of development here, with an unemployment rate of below 5 per cent.

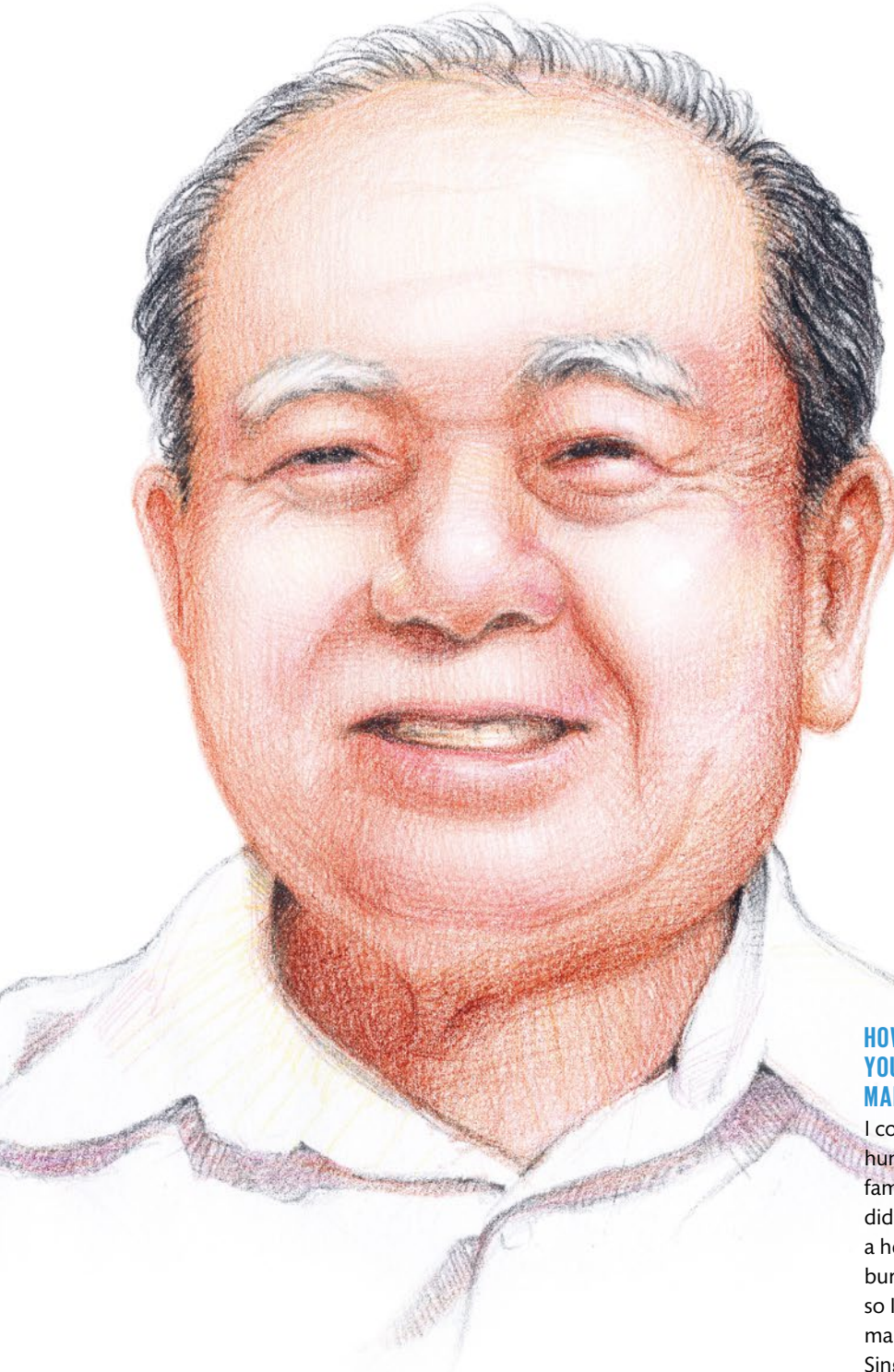
But what impressed me most is the deliberateness in which Singapore goes about as a society. For me, that's probably the single most important way to ensure, implement and sustain development - by making it deliberate. Singapore feels like a purpose-driven society that always wants to redefine itself.

I was also impressed with the people's harmony despite the differences among the various cultures. Singapore celebrates this. There's this synergy when the country celebrates all the uniqueness and richness of its cultural diversity. It gives one hope that these things can be achieved elsewhere too.

WHAT ABOUT THE FOOD?

Durian pudding was interesting and is definitely an acquired taste.





lifelong learner

Semi-retired maritime veteran Kenneth Kee tells Lynn Seah about his satisfying career and his continued involvement in the industry

From the time he started sailing as an engine cadet at the age of 18, Kenneth Kee has spent much of his life in the maritime industry, including a career spanning 26 years with Neptune Orient Lines (NOL) and 13 years as Managing Director of tanker shipping company Petroships. Although he retired in 2009, the 70-year-old is still active in a number of industry committees, and works part-time as a Technical Advisor at bunker craft operator Hong Lam Marine. Singapore Nautilus catches up with him.

HOW DID YOU GET YOUR START IN THE MARITIME INDUSTRY?

I come from a very humble farming family in Malaysia. I didn't wish to impose a heavy financial burden on my parents, so I chose to study marine engineering at Singapore Polytechnic after my O-level exams. After the first two years of studies, food and gear would be provided to trainees on a ship.

TELL US ABOUT SOME OF YOUR INDUSTRY EXPERTISE.

I was posted overseas by NOL from 1979 to 1983 to supervise the construction of new ships in Japan and South Korea. Newbuilding is a very specialised area. I learnt a lot from working with bosses who had a wealth of industry experience. I saw how ships were built from scratch, and even had the

PERSONALITY

opportunity to visit many machinery makers. That was really an eye opener.

The roles and responsibilities in all my shore postings with NOL were different, from serving as a superintendent to running subsidiaries. I gained much from this exposure, and my engineering background served as a good foundation in building up my expertise. But being equipped with engineering knowledge is not enough. Financial knowledge and people management skills are also important traits.

In all these positions, I continued to use the knowledge I gained when I was at sea from 1966 to 1973. When you work in a shipping company, you are always very much involved in the running or building of ships. These are areas in which seafaring experience will come in handy.

WHAT PERSONAL TRAITS HELPED YOU TO DO WELL IN THIS INDUSTRY?

Perseverance, hard work, honesty and integrity, respect for people and a passion for learning. Even

today, I keep myself relevant by attending seminars and talks. I find shipping very interesting, and I can never say that I have learnt everything!

TELL US ABOUT YOUR INVOLVEMENT IN THE MASS FLOW METER PROJECT.

Mass flow metering is a digital technology used in other industries but is new to bunkering. The bunkering industry has until the end of 2016 to install mass flow metering systems in all their bunker tankers.

I am Co-Convenor of the Working Group on the Mass Flow Metering System and leader of the task group looking into operating procedures for the system. The project started in 2009. We had to conduct a lot of field trials to ensure that the system can deliver the desired results. It took three years of trials before the Maritime and Port Authority of Singapore approved the first bunker tanker fitted with a mass flow metering system.

WHAT IMPACT WILL THE MANDATORY USE OF MASS FLOW METERS HAVE ON THE INDUSTRY?

Companies operating bunker tankers will have to invest in acquiring and installing the systems. They will also have to train people to operate them. It is something new that they will have to adopt. But from an efficiency viewpoint, it will save time, improve productivity and improve transparency in the bunker supply business. We have had more than two years' experience with the first system installed in 2012, and it has proven to be very reliable.

HOW HAS THE INDUSTRY CHANGED OVER THE YEARS?

When I started out, cargo was not carried in containers but in boxes that were lifted in a sling. Ships are also very much larger these days, with capacities of over 19,000 twenty-foot equivalent units. But the carriage of liquid cargo has not changed much. It's still being transported by tankers.

The systems for communication, navigation and monitoring have become more developed and modern. Much has also changed in terms of rules and regulations. Today,

there are many regulations to protect the environment and sustain green shipping practices. Training programmes and certifications have also had to be adjusted in line with these regulations.

WHAT DO YOU COUNT AS YOUR PROUDEST ACHIEVEMENTS?

Rising from a humble background with no university degree to eventually hold the position of Managing Director in a shipping company. I'm also proud to have brought up three children who have attained much higher educational qualifications than me – two of them hold master's degrees.

"I CONTINUED TO USE THE KNOWLEDGE I GAINED WHEN I WAS AT SEA FROM 1966 TO 1973. WHEN YOU WORK IN A SHIPPING COMPANY, YOU ARE ALWAYS VERY MUCH INVOLVED IN THE RUNNING OR BUILDING OF SHIPS. THESE ARE AREAS IN WHICH SEAFARING EXPERIENCE WILL COME IN HANDY."

KENNETH KEE, MARITIME VETERAN

With the global shipping industry's move towards sustainability, Jurong Port is leading the way to becoming a recognised green port in the region. Since adopting both green and sustainable practices from as early as 2010, when a carbon footprint study was done, it has also implemented several infrastructure upgrades as it works towards accreditation as a green and sustainable port. Key strategic thrusts include recycling concrete from demolished old berths, and applying other green construction methods to build what will be the world's first green berths by 2016. There will also be other elements such as solar-panelled roofs for generating electricity, and the harvesting of rainwater to reduce the demand for water transport systems in the port.

GREEN PORT STUDY

Jurong Port and the Maritime and Port Authority of Singapore (MPA) embarked on a Green Port study last year to identify green initiatives for port construction and operations. A joint study trip involving the MPA, Jurong Port and Surbana International Consultants, which provides sustainable urban design solutions, was also made to benchmark and observe useful features in the ports of San Diego and Long Beach in the United States. These included

rainwater harvesting and air quality monitoring.

The study looked at the present conditions in Jurong Port, as well as opportunities for improvement in areas of sustainability, such as solar energy harvesting.

"The outcome of this study helped to produce a set of relevant green criteria that are being implemented in the construction of new green berths," says Jurong Port's project manager, AVP Sivakumar.

The original berths,

building the world's first green berths

Audrina Gan finds out how Jurong Port is adopting green construction methods and design features to reduce its carbon footprint



TECHNOLOGY

built in the 1960s, had a total area of 2.4ha and a draft of 10m. As part of the port's plans to improve productivity and storage areas, the new green berths will be deepened to 13.8m in order to handle larger vessels of up to 70,000 DWT, while the storage area will be increased by almost 30 per cent to 3.1ha.

GREEN METHODS

To construct the new storage areas, recycled concrete from the old berth deck demolition is being used along with green concrete,

and other green construction materials – such as steel mesh and reinforcement bars – in order to reduce the carbon footprint.

Precast road kerbs and drains made of 100 per cent recycled materials are also helping to reduce the need for elaborate formworks typically used in the construction process.

What's more, during the demolition of the seaside berth deck, environmentally friendly wire saw-cutting technology helped minimise

noise, dust and water pollution. Crushed concrete from old demolished berths is also being recycled in the construction of the base course of the storage area.

Other green construction methods the team of 150 workers are adopting include precasting slabs and beams on-site. This decreases carbon emissions by reducing the need for off-site transportation.

Apart from the construction processes, green features will be introduced in the

upgrading, too. For example, national water agency PUB has certified the new berths as an Active, Beautiful, Clean (ABC) Waters Project. They include 100 per cent irrigation of the port's landscaping using harvested rainwater, and the water's slow discharge into main drains to prevent flooding.

To achieve the ABC initiatives, the storage yards will have a sloped surface to carry rainwater into specially-built drains.

According to Sivakumar, these



TECHNOLOGY

drains will have plants and trees growing in them. He adds: "Their roots and the various layers of filter media will remove unwanted particles from the water. The filtered water will then be collected in underground tanks that supply water to plants and trees."

To facilitate this, says Sivakumar, the port has done landscaping with newly planted trees and turf, which has resulted in a 19 per cent increase in green areas. Drought-tolerant plants that

require minimal irrigation are also being used.

To address growing concerns about air pollution in the port, an air quality monitor has been installed at the berths to facilitate ongoing pollution management. The purpose of monitoring air quality is to gather data and study pollution patterns to enable Jurong Port to reduce pollution, and to alert shipowners in the case of a huge increase in hazardous particles when a certain type of vessel berths at the port.

USING SOLAR ENERGY

Other green features include the installation of high energy-efficient berth lights powered by solar energy, and a solar-panelled substation roof that supports close to 20 per cent of the annual energy consumption of the lights. In addition, Jurong Port will soon have what is being described as the largest port-based solar panel facility in the world. Costing S\$30 million, installation is expected to be completed this December.

With close to 1,022,570 sq ft of warehouse roof space (the size of about 13 football fields), being fitted with solar panels, the system is expected to generate 10 megawatts of electricity at its peak capacity. This is equivalent to the amount of carbon footprint that would have been offset by planting 300,000 trees. Jurong Port will use that electricity, and channel the excess into the local power grid for other users.

As a nod to the berths' green



TECHNOLOGY

ABOUT JURONG PORT

- Began operations as a general and bulk cargo port in 1965.
- Corporatised on Jan 1, 2001.
- Now a multipurpose international port operator handling general, bulk and containerised cargo.
- Its main gateway terminal in Singapore welcomes more than 15,000 vessels each year.
- It operates three joint venture terminals in China (Rizhao, Shandong Province, and Yangpu on Hainan Island) and Indonesia (Marunda in West Java).
- Its headquarters, Jurong Port Administration Building, was awarded the Green Mark Platinum Award for its environmentally friendly workspace by the Building and Construction Authority in Singapore in 2012.

construction methods and environmental sustainability features, Jurong Port has already received a Green Mark Award (Gold) from Singapore's Building and Construction Authority.

INITIAL CHALLENGES

Executing this massive upgrading project has not been without challenges. For a start, there were few green products related to port construction in the market when work first began in March last year. Following an assessment,

products such as green concrete, precast road kerbs and drains, as well as underground rainwater tanks were proposed.

Moreover, as this is the first time an ABC feature is being implemented within a port area, there were no prior guidelines for the design team to assess and adopt. To overcome this, Jurong Port consulted the PUB, and the feature was certified on a pilot project basis.

The expanded greenery at the port was also conceived after significant

preparation. For example, some trees needed to be transplanted within the project area, so an arborist or tree surgeon was engaged to check their condition for the possibility of transplantation.

In the end, five healthy trees have been transplanted, and 15 new ones will be added to the project area.



"CONSTRUCTION OF THESE GREEN BERTHS IS ONE OF SEVERAL INITIATIVES JURONG PORT HAS UNDERTAKEN TO PROMOTE ENVIRONMENTAL SUSTAINABILITY. THIS AND OTHER INITIATIVES WILL BE IMPLEMENTED PROGRESSIVELY."

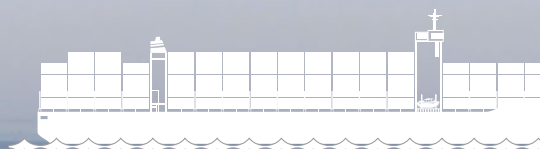
**OOI BOON HOE, JURONG PORT
CHIEF EXECUTIVE OFFICER**



evolving with the times

BW Group Chairman Andreas
Sohmen-Pao shares its success
formula and plans for the future
with Rahita Elias

COMPANY SPOTLIGHT



Over the last decade, BW Group has undergone a radical metamorphosis, transforming itself successfully from a dry bulk and tanker operator to a force in the maritime oil and gas arena.

The group's Chairman, Andreas Sohlen-Pao, attributes this success partly to the company's sense of purpose, which it defines as "applying our maritime expertise to find solutions to the world's energy challenges". This proficiency has taken BW into the fields of gas transportation and deep-water oil and gas production

through both organic investments and successful acquisitions.

BW's success, he says, also stems from its commitment to its core values of delivering on promises, acting for the future, creating energy through collaboration, and always aiming to do better. "It is this last value that makes us wary of resting on past successes – there is always more to be done to improve our service and performance," he explains, adding that the BW team's excellent work and efforts over the years is a third key component of BW's progress.

RICH HERITAGE

BW's genesis goes back to 1955 when Sohlen-Pao's maternal grandfather, Pao Yue-Kong, bought his first vessel. Pao, known simply as Sir YK, was referred to in his time as "king of the sea" and the "Onassis of the East" (after prominent Greek shipping magnate Aristotle Onassis, albeit controlling a much larger fleet than his Greek counterpart).

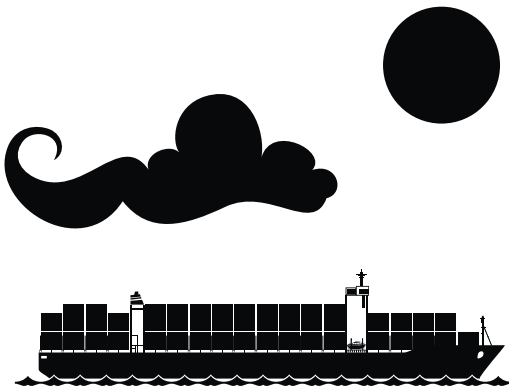
Sohlen-Pao, who took over as Chairman in November last year, now carries the torch lit by Pao and reinforced by his father Helmut Sohlen.

Currently, BW has the world's largest

liquefied petroleum gas (LPG) fleet and is a leading player in liquefied natural gas (LNG) shipping, gas production and gas terminals in the LPG and LNG business. It also owns and operates a sizeable fleet of crude oil and chemical tankers and has one of the world's largest and most modern fleets of refined product tankers, stemming from its latest focus on refined oil products. Besides these investments, the group has also capitalised on developing environmental technologies through its venture capital arm Green Marine Capital,

LEFT The *BW Aries* is a Very Large Gas Carrier (VLGC) owned by BW LPG, the world's largest VLGC owner and operator, a position based on number of VLGCs and LPG carrying capacity.

COMPANY SPOTLIGHT



"BW'S SUCCESS STEMS FROM ITS COMMITMENT TO ITS CORE VALUES OF DELIVERING ON PROMISES, ACTING FOR THE FUTURE, CREATING ENERGY THROUGH COLLABORATION, AND ALWAYS AIMING TO DO BETTER."

BW GROUP CHAIRMAN ANDREAS SOHMEN-PAO

and is a key player in the deep-water floating production business.

RESPONDING TO CHANGE

Sohmen-Pao says that the group will continue to evolve in tandem with the changing seascape. He adds that one major trend is the move towards clean energy but cautions that this will take time. "As the existing world fleet will not change overnight, it is important to ensure that existing assets are as environmentally friendly as they can be. At BW, we keep

a modern, well-maintained fleet, and put a lot of focus on fuel efficiency," he shares.

He points out that BW's shift towards gas is another way in which the group is keeping pace with the development of clean fuels, while it continues to incubate and invest in new technologies through Green Marine Capital.

On the whole, Sohmen-Pao says that energy needs to be accessible, affordable, and have as little environmental impact as possible. In terms of meeting the accessibility test, he says that although the boom in US shale has alleviated some of the pressure of meeting the growing demand for energy in emerging economies, there is still an infrastructure gap that BW's LNG and LPG teams are trying to fill, as gas from the US needs to be liquefied and shipped before it can be used in the international market.

Another energy challenge is affordability, says Sohmen-Pao, as new oil and gas discoveries have generally become harder to reach and are costlier to produce. To address this, BW Offshore's floating production storage and offloading

facilities provide solutions to produce energy in deep waters, while BW Gas Solutions offers LNG terminals of different sizes to regasify LNG economically.

In addition, BW Pavilion LNG, a joint venture between BW and Singapore's Temasek portfolio company and LNG investment firm Pavilion Energy, was established to cater to emerging shipping and gas infrastructure needs in Asia and beyond.

FUTURE GAZING

As the group continues to chart its onward journey, Sohmen-Pao is mindful of the challenges ahead. He says: "We have always had to deal with a high degree of volatility in asset prices and freight rates. But we are now contending with a new market danger of excess liquidity and very low interest rates. In such an unpredictable landscape, there is a risk that the market will cease to function normally - investment decisions get distorted, asset prices go in strange directions, troubled companies do not get fixed. Given that we are in a capital-intensive industry, the distortions we see in the capital markets are

a real concern."

On its growth plans in Singapore over the next few years, Sohmen-Pao says that with a great pool of talent and supportive maritime policies, the country will remain an important centre for BW. He adds: "In a globally competitive and volatile industry like shipping, the stability of the regulatory and fiscal framework is critical. With these conditions in place, we will continue to work closely with companies in the local community, including banks, shipyards and other services, to grow our activities in Singapore."

And even as the group continues to grow its businesses, Sohmen-Pao also emphasises BW's belief in being a responsible corporate citizen. He says: "We believe that corporate social responsibility starts at home; in other words, running our businesses responsibly. We also invest significantly in the environmental area via a form of 'impact investing' - doing good while making investment returns. At the philanthropic level, we have been supporting educational initiatives because we feel this is where we can have a leveraged impact."



growing digital presence

Maersk Line's Copenhagen-based Social Media Manager, Davina Rapaport, sheds light on how companies can achieve success on social media

In this day and age when everyone extensively consumes information via digital platforms such as Facebook and Twitter, it has become essential for a company to embrace social media if it wants to maximise its reach to clients and potential customers. Furthermore, the CEOs and key influencers of today are all plugged in to this new way of life and business, making it imperative for even a business-to-business (B2B) company like

Maersk Line to keep up with the trends.

Recognising this need, Maersk Line began its foray into social media in 2011, capitalising on the fact that most maritime companies had yet to do so. Instead of hiring an external agency to promote the brand, Maersk Line created its very own social media arm as it felt that this was the best way to maintain a consistent voice throughout all its audience engagement efforts.

COMMENTARY

APPROACH

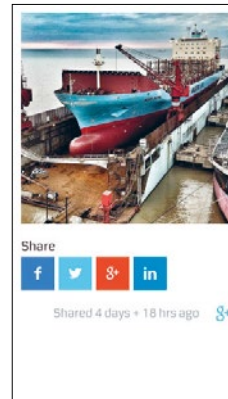
When we launched our social networks, we focused on engagement, not pushing our services and products. After all, no one likes a hard sell.

This proved to be the right approach. Maersk Line was the first of the organisation's subsidiaries to launch its social media platforms, and we are honoured and delighted to have gained more than 1.3 million followers on our platforms, from Facebook and Twitter to Chinese microblogging platform Weibo.

The job of social media marketing has been around for years now, but many people still have a misconception of what it truly entails. Yes, I believe that social media managers like myself have one of the most fun and exciting jobs in the world. But no, we do not actually surf Facebook, Twitter and Instagram all day. In fact, that only accounts for a small fraction of our responsibilities – social media managers are heavily involved in strategic planning and have to manage a large number of commercial projects as well.

The tricky part of our jobs as social media managers is in identifying content that can drive our brand story while having a value-added element that provides useful information to our audience, as compared to simply uploading content that we think people want to see. Everything we post on social media is there for a reason; there is always an overarching narrative that ties in with the organisation's values and goals. We do not simply replicate content across our various social media outlets.

On more casual platforms such as Instagram, we post fun and light-hearted snippets of information, like images and facts about our Triple-E container vessels – they were the largest in the world when they first launched in 2013. On more serious platforms such as LinkedIn, we aim to provide insightful stories for our business followers instead. It all comes down to finding the perfect balance




MAERSK MARKETS PEOPLE HARDWARE INDUSTRIES SOCIAL MEDIA THE MAERSK GROUP

“Social media is about communication, not marketing. It's about engaging, not pushing. And social media is definitely not just about the media side.”

- We like you too**
Learn more about the stories and people that make up the Maersk brand on our Facebook page. Become a fan now by liking the page and engaging with our photos, post links, videos, and competitions.
- We like to tweet**
Follow our @Maersk Twitter account to get first access to reports, news, press releases and event updates. Additionally, tune in at specially mentioned times to hear what our Maersk experts have to say about the latest news within the industries we operate in. If you are looking for a job with Maersk, follow our @MaerskJobs account today to be constantly updated with the newest job postings on the Maersk.com job portal.
- Linking up on LinkedIn**
For current, prospective and future employees, following the Maersk Group company profile on LinkedIn offers updated job openings, information about the application and recruitment process, and articles about the work culture within the group.
- Share your photos**
Follow the Maersk Flickr account to see amazing photos taken by both Maersk and our fans. We are always on the lookout for more great photographers who are interested in sharing their Maersk themed photos, so send them our way if you would like us to share them with our community.
- Maersk stories**
The Maersk Group blog is an efficient way to get a quick overview of content such as Maersk Post articles with even more pictures than the print version, Maersk inspired Instagram photos, and employee stories from all over the organization. If you are still holding off on joining the other social media communities such as Facebook, Twitter, and Google+, then the Maersk blog is a great place for you to stay updated without having to create a profile.
- Maersk in motion**
Subscribe to the Maersk Channel on YouTube to experience the story of Maersk through video. From employee stories, to our corporate video, to case stories of innovation, you will find a variety of great footage that you can share with your friends, family and local communities.
- Follow us on Sina Weibo**
Sina Weibo is a Chinese twitter-like service and the most popular social media platform in China. Follow us on Sina Weibo to see Maersk's footprint and diversified activities in one of the world's fastest growing countries.
- Adding a frame and filter to Maersk**
Follow the Maersk profile on Instagram and become a Maersk brand ambassador by tagging all your Maersk themed photos with #Maersk.
- Get engaged with Google+**
Add Maersk to your circles on Google+ to get engaged in conversations and learn about the latest topics within the transport and energy industries.

of being fun, personable and serious, while still reflecting how Maersk Line is a leader in its field.

RESOURCES

One of the most common gripes I hear from companies trying to establish a social media presence is a lack of budget and resources. The team we have running the operations at Maersk Line is by no means massive. While Maersk Line's global accounts are run from Copenhagen, in each of the markets there are Marketing Managers with differing views on social media – or no views at all! Managing, motivating and guiding these Marketing Managers around the world is a constant challenge, but they are valuable sources of content from the “front line”, so to speak.

In 2012, less than a year after our social networks debuted, Maersk Line won the Community Presence and Social Media Campaign of the Year awards at the 2012 European Digital Communication Awards. Our success shows that even a B2B firm like Maersk Line, with a lean social media team, can excel at generating creative, engaging and relevant social media content.

FOLLOWING

While the number of followers and “likes” a company garners on its social media platforms is usually thought to be indicative of its level of success and popularity, growing this number should never be the ultimate goal. Having a huge pool of followers certainly expands your reach, but what good is it if you're not providing relevant, quality content that engages your audience? While our millions of fans are priceless to us and are the backbone of our success, we would rather network with a smaller number of commercially interesting followers than simply attain “likes”.

Maersk Line's social media focus

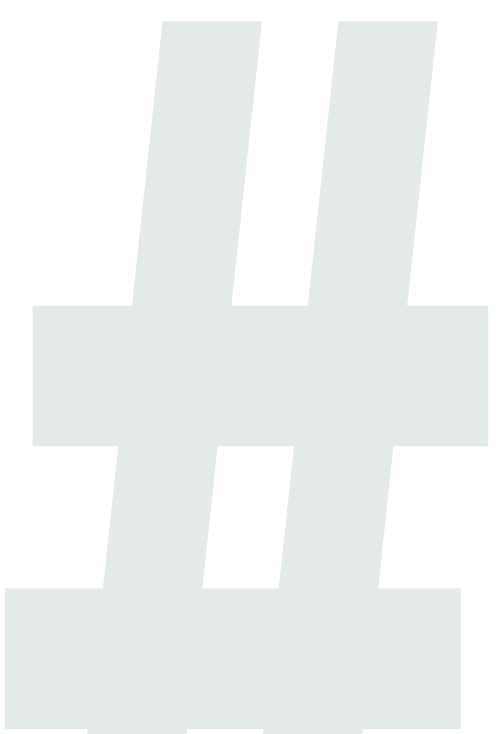
is now on quantifying our impact, but there is no denying the fact that we still deal with intangibles, or what is so often dismissed as “the fluffy stuff”. There was an unfortunate accident back in 2013 when one of our vessels struck and killed a whale and inadvertently dragged the carcass back to the harbour in Rotterdam.

For a company like Maersk Line that takes our environmental impact seriously, an event like this is a major concern. Instead of hiding, Maersk Line was proactive on social media, posting a photo and a series of self-reflective questions and answers about the incident. Now, when you Google “Maersk Line whale”, our Facebook and Pinterest pages remain among the top search results. At the time of the incident, every other story on the first page of the search results was a favourable one with the story shifting from the dead whale to Maersk Line's open and honest response. We can't pin a monetary value to this incident, but its value for the brand is huge.

Any company would normally draw a huge amount of flak during such an incident, and cynics would argue that this is the unfortunate trade-off for getting involved with social media. But I strongly disagree with this view – there are no pitfalls in engaging with your audiences, so long as you are genuine and open in your communications.

In the virtual world, it's all too easy to just shut out unwanted comments or go silent. But that doesn't stop the conversations – it just means that you're not part of them.

Maersk Line has an exceptionally loyal follower base that regularly supports us. I believe that our organisation's driving philosophy – to be genuine and transparent – paid dividends in the scenario above, and is a key ingredient in our recipe for success.



“IN THE VIRTUAL WORLD, IT'S ALL TOO EASY TO JUST SHUT OUT UNWANTED COMMENTS OR GO SILENT. BUT THAT DOESN'T STOP THE CONVERSATIONS – IT JUST MEANS THAT YOU'RE NOT PART OF THEM.”

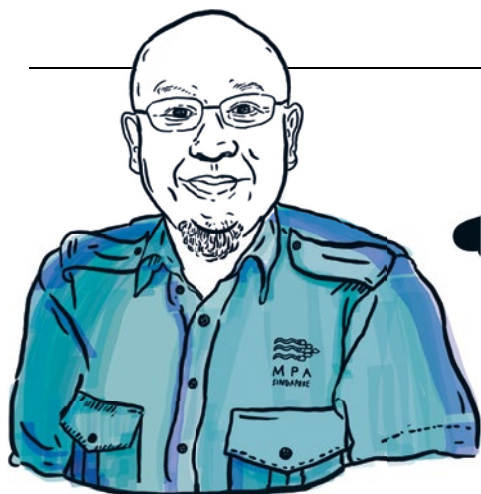
**DAVINA RAPAPORT, GLOBAL SOCIAL MEDIA MANAGER
AT MAERSK LINE**

ABOUT DAVINA

Davina is the global Social Media Manager for Maersk Line. Prior to that, Davina was a Consultant and Head of Social Media for a leading corporate and financial communications consultancy in Australia.



CAREERS



SENIOR PORT INSPECTOR
SAYRI MOHAMED SALLEH

JOB SCOPE

- 1. SEABORNE PATROL
- 2. ROUTINE CRAFT INSPECTION

• DURING A CRAFT INSPECTION, THINGS HE LOOKS OUT FOR INCLUDE:



keeping our waters safe

As part of a team of Port Inspectors who work tirelessly day and night to keep our ports safe, Senior Port Inspector Sayri Mohamed Salleh takes us through the demands of his job

To keep Singapore's port waters safe and pollution-free, the Maritime and Port Authority of Singapore (MPA) has a dedicated team of Port Inspectors who work round the clock patrolling Singapore's waters. They enforce MPA's regulations on navigational safety and marine environment protection, and are the first responders to incidents at sea.

With 17 years' experience in the field, Senior Port Inspector Sayri Mohamed Salleh, 43, shares his experiences with *Singapore Nautilus*.

KEY ROLES

Our key responsibilities as Port Inspectors are primarily going on seaborne patrols, conducting routine craft inspections, and collecting bunker samples for quality checks. We are the eyes and ears of the Portmaster.

On daily seaborne patrols, we board vessels of varying sizes in Singapore's port waters to conduct random checks, such as validating the vessel's MPA manning licences. We also collect bunker samples from bunker barges to ensure they meet

bunkering standards and regulations. At night, we also check on navigational aids such as beacons and buoys to ensure that the lights are working.

Port Inspectors are the first responders to marine incidents in Singapore's port waters. When there are incidents such as collisions, grounded ships or an oil spill, we will rush to the

incident site to assess the situation and work on solutions through MPA's Marine Safety Control Centre.

Besides seaborne patrols, routine craft inspections are also carried out to ensure that they adhere to port regulations.

We visit up to five or six locations per day, including shipyards and ferry terminals, on a

CAREERS

MAINTAINING INTEGRITY



1. WHILE ON SEABORNE PATROL DUTY, I WAS INFORMED THAT A TANKER APPEARED TO BE ILLEGALLY RELEASING TOXIC GAS FROM HIS CARGO HOLD IN SINGAPORE'S WATERS.



2. I REACHED THE TANKER & CIRCLED IT TO CHECK, BUT NOTHING SEEMED TO BE OUT OF ORDER SO I LEFT THE AREA.



3. I RETURNED TO CHECK AFTER ANOTHER COMPLAINT ON THE SAME TANKER. I COULD SEE & SMELL TOXIC GAS BEING EMITTED FROM THE AIR VENTS ON THE STARBOARD SIDE.



4. ON BOARD THE TANKER, I SPIKE TO THE SHIPMASTER WHO ADMITTED TO THE ILLEGAL ACT, BUT HE WAS RELUCTANT TO WRITE A REPORT ON THE INCIDENT.



5. HE ASKED ME TO FOLLOW HIM TO HIS CABIN TO WRITE THE REPORT. HE TOOK OUT ABOUT US\$60, & WANTED TO GIVE IT TO ME AS A BRIBE. I WAS TAKEN ABACK & LEFT THE CABIN IMMEDIATELY.



6. I CALLED MY SUPERVISOR WHO ADVISED ME TO REPORT THE INCIDENT TO A MARINE OFFICER WHO THEN REPORTED IT TO THE CORRUPT PRACTICES INVESTIGATION BUREAU.



7. I WAS COMMENDED BY PRIME MINISTER LEE HSIEN LOONG FOR UPHOLDING THE INTEGRITY OF THE PUBLIC SERVICE, AND FEATURED ON THE NEWS.

schedule, depending on where the vessels are docked. Vessels need to pass these inspections in order to operate in Singapore's port waters.

MEETING CHALLENGES

On occasion, there may be crew members who turn rowdy or aggressive when they are found to have flouted rules. I try to manage these situations by being firm and tactful, while at the same time politely explaining to them what the implications are.

Another challenging part of

the job is inclement weather conditions.

I recall a severe thunderstorm that happened sometime in 2000. I had to attend to a case of a small bunker barge landing on the shores of East Coast Park after strong winds and currents caused it to drag anchor.

Instead of the usual 20 minutes, it actually took me 1.5 hours to reach the barge due to the strong winds, heavy rain and high waves. At times, I could not even see where I was going, even though it was daytime.

Still, I consider being out at sea the best part of my job.

ACT OF INTEGRITY

I was publicly commended by Prime Minister Lee Hsien Loong for refusing to accept a bribe from a shipmaster when I found his vessel flouting regulations. He was insistent on trying to make me accept the bribe, but I turned him down and stressed to him the severity of his actions.

I am honoured by the commendation and happy that my family is proud of what I've done.

TO BECOME A PORT INSPECTOR:



1. RELEVANT WORKING EXPERIENCE. A RELEVANT DIPLOMA IS PREFERRED.



2. THOSE WITH GOOD KNOWLEDGE OF LOCAL PORT WATERS & THE MARITIME INDUSTRY, OR WORKING EXPERIENCE AS AN ENFORCEMENT OFFICER, WILL HAVE AN ADVANTAGE.



3. BE ABLE TO WORK INDEPENDENTLY & BE WILLING TO REPORT FOR WORK AT DIFFERENT LOCATIONS.





BUILT IN 1919, THE FULLERTON WATERBOAT HOUSE WAS ONCE USED TO SUPPLY FRESH WATER TO SHIPS ANCHORED OFFSHORE.



Boat Quay handled 75 per cent of Singapore's shipping services in the mid-19th century.

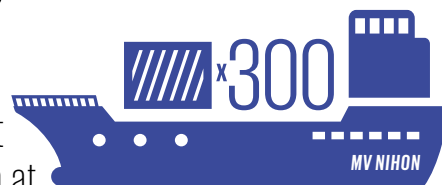


tracing our maritime roots

The Singapore Maritime Trails tell the story of the progress of Singapore's maritime industry through curated tours at selected locations. Here are some interesting facts about Singapore's maritime development.

Tanjong Pagar Terminal, Singapore's first container port, opened in **1972.**

The MV Nihon, the first container ship to stop at Singapore, arrived from Rotterdam on June 23, 1972.



CLIFFORD PIER WAS ALSO KNOWN AS **RED LANTERN PIER**, IN REFERENCE TO A RED OIL LAMP THAT GUIDED THE SHIPS ENTERING THE HARBOUR.

Fort Canning Lighthouse, which operated from

1903 to **1958,**

was eventually closed after taller buildings overshadowed it.

1959

Fullerton Lighthouse was mounted on top of Fullerton Building after the Fort Canning Lighthouse was deactivated.



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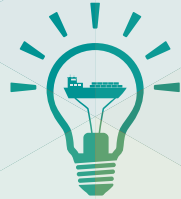
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