

HORIZON

MPA ACADEMY NEWSLETTER > NOV 2019



02

01: EDITOR'S NOTE

Supporting the International Maritime Community



22

03: CONTRIBUTION

The Role of Maritime Energy Management in Promoting the Development of Sustainable Ports



04

02: FEATURE

Greater Impact from Enhanced Package



27

04: INTERVIEW

Conversations with MPA Academy Alumni



32

05: INTERVIEW

Riding the Waves of Change



37

06: HIGHLIGHTS

Looking at 2019



39

07: TALK

Harnessing Blockchain in the Maritime Sector



42

08: PEOPLE

Safety First from Ship to Shore



46

09: UPCOMING EVENTS



01: EDITOR'S NOTE

SUPPORTING THE INTERNATIONAL MARITIME COMMUNITY

Since 1998, the Maritime and Port Authority of Singapore (MPA) has been training the international maritime community under the Singapore - International Maritime Organization (IMO) Third Country Training Programme (TCTP). The MPA Academy, training arm of the MPA, has also been providing global maritime leadership training for overseas port and maritime officials through its three flagship programmes namely Advanced Maritime Leaders' Programme, Maritime Public Leaders' Programme and the Port Management Programme. To date, more than 2,500 officials from over 90 countries have been successfully trained under the TCTP and the academy's flagship programmes.

To augment these efforts, we are pleased to share that Singapore has launched an enhanced five-year technical co-operation and training package for IMO and its Member States that is valued at USD 5 million. The package was unveiled by Minister of Transport Mr Khaw Boon Wan last year at the 2nd Maritime Administrators' Forum, which was attended by the IMO Secretary General Mr Kitack Lim. Our Feature story highlights three key areas from this enhanced package: increasing the scale and scope of the technical assistance under the TCTP MOU, extending co-operation with the World Maritime University, and enhancing global leadership trainings including providing new fellowships for maritime officials.

As a direct result of the enhancement, Mr Vu Ba Huy from Vietnam and Mr Sylvanus Taukondjele Kashile from Namibia were able to realise their dreams and further their studies in their respective fields through the MPA scholarship. In Contribution, Mr Vu shared with us the role of maritime energy management in developing sustainable ports.

The Advanced Maritime Leaders' Programme had its biggest ever turnout this year as a result of Singapore's commitment to enhance its technical cooperation and training package for the IMO and its Member States. In Interview, two alumni speak of their experiences and how it has impacted them and the work they do.

The academy has been conducting oral history interviews with key maritime leaders and personalities to capture their personal recollections and experiences about the development of Maritime Singapore. In this issue of HORIZON, we had the privilege of speaking to maritime veteran Mr Teo Siong Seng, Executive Chairman and Managing Director of Pacific International Lines Pte Ltd. He shared with us the company's evolution and challenges in navigating the future.

We bring you the highlights of the second Maritime Blockchain Forum that brought together leading practitioners in blockchain to promote awareness and adoption of the technology. And in People, we tagged along with MPA's port chemist to get an inside look at the training programmes organised by the academy, and what it takes to keep Singapore safe.

We hope you will enjoy reading this issue of Horizon. Please let us know what you think at MPA_Academy@mpa.gov.sg.

Tan Suan Jow
Dean, MPA Academy



02: FEATURE

GREATER IMPACT FROM ENHANCED PACKAGE BY RAHITA ELIAS

Singapore's US\$5 million enhanced technical co-operation and training package for the International Maritime Organization (IMO) and its Member States is already making a real impact on people. Among them are 29-year-old Vu Ba Huy from Vietnam and 31-year-old Sylvanus Taukondjele Kashile from Namibia. As a direct result of the enhancement, these two are able to realise their dreams, and further their studies in their respective fields and expertise.

Supporting capacity building

Singapore's pledge to launch the enhanced technical co-operation and training package for the IMO and its Member States was first unveiled by Minister of Transport, Mr Khaw Boon Wan, last year at the 2nd Maritime Administrators' Forum which was attended by the IMO Secretary General Mr Kitack Lim.



Speaking at the Forum, Mr Khaw shared that the enhanced package, valued at US\$5 million over five years, reaffirmed Singapore’s commitment to support capacity building in the international maritime community. The package, he added, was to mark the 70th anniversary of the adoption of the IMO Convention, and the 20th anniversary of the IMO-Singapore Third Country Training Programme (TCTP) memorandum of understanding (MOU).

Mr Khaw noted, “Technical co-operation and capacity building are a critical part of implementing the IMO’s policies and standards, and also preparing for the future. It helps Member States build up the necessary expertise, and put in place the institutional capacities to comply with and enforce international standards and regulations.”

Paying forward

Singapore itself has benefitted much from various technical co-operation and capacity building programmes.

Therefore, he added, “We believe in paying it forward, and sharing our experience with others.”

Since 1998, when Singapore was the first to sign the TCTP MOU to provide technical assistance for fellow Member States, the Republic has conducted training and development programmes for over 2,100 participants from more than 90 Member States.

The enhanced package is made up of three components.

Expanding TCTP MOU scale and scope

First, Singapore is increasing the scale and scope of the technical assistance under the Singapore-IMO TCTP MOU. It will hold additional training courses, and open them to more participants from developing Member States. In addition, the Maritime and Port Authority of Singapore (MPA) will work with IMO to conduct IMO Member State Audit Scheme (IMSAS) training courses to assist fellow Member States in preparing for their IMSAS audits.

Extending co-operation with WMU

Second, Singapore has expanded its co-operation with the World Maritime University (WMU), providing new fellowships and scholarships for maritime officials from IMO Member States studying at the WMU and maritime institutes in Singapore. Mr Vu and Mr Kashile are among those who have benefited from this enhancement. Singapore is also increasing the number of study visits it hosts for WMU students.

Paving the way for this expanded co-operation, the MPA and the WMU signed an enhanced MOU in April this year. MPA chief executive, Ms Quah Ley Hoon, and WMU President, Dr Cleopatra Dumbia-Henry, signed the accord.

The agreement provides for co-operation between the two partners on the education of maritime leaders, leadership development programmes as well as the exchange of faculty members. Under the agreement, MPA Academy will continue to host week-long field studies in Singapore for WMU students specialising in Port Management – which it has been doing since 2004. In addition, the Academy this year started hosting WMU students specialising in Shipping Management and Logistics who were here for their week-long field studies.



Ms Quah said, “This enhanced Memorandum of Understanding with WMU reaffirms Singapore’s relentless commitment and support to global maritime leadership training and IMO’s agenda of training.”

Enhancing global maritime leadership training

The third component of the enhanced package involves Singapore working with the IMO to enhance global maritime leadership training, and provide new fellowships for maritime officials from Member States to attend MPA Academy's various flagship programmes in Singapore. As part of this enhancement, the WMU Koji Sekimizu PhD Fellowship on Maritime Governance was officially launched on 25 June 2019. This Fellowship will enable an assessment of the role and impact of maritime governance over the past 60 years.



Dr Dombia-Henry, President of WMU, said, "This PhD fellowship on maritime governance is timely. It will enable a broad-based assessment of the role and impact of relevant international maritime instruments, with a primary focus on IMO instruments and taking into account the United Nations Convention on the Law of the Sea (UNCLOS) and relevant instruments of other UN agencies."



Ripple effect

All in all, the enhanced training package pledged and being delivered by Singapore will have a growing ripple effect across the international maritime community in upscaling technical expertise and capabilities.

Sylvanus Taukondjele Kashile

Operation Planning Analyst
Namibian Port Authority



Sylvanus Taukondjele Kashile, an operation planning analyst with the Namibian Port Authority, is realising his dreams in Singapore. Sylvanus, who will turn 31 in November, is pursuing a Master of Science in Maritime Studies at the Nanyang Technological University, thanks to an MPA sponsorship.

I had always wanted to come to study in Singapore because it is one of the leading international hub ports and a major maritime centre in Asia. Therefore, I knew that Singapore's maritime industry would have a lot to offer in terms of knowledge transfer and the much-needed technical and commercial skills to remain relevant and effective in the ever-changing maritime industry.

I also knew that studying here would enable me to gain a better understanding of the prevailing issues that are impacting the industry.

Because of these reasons, I applied for the MPA sponsorship. I didn't really expect to be accepted, and I just couldn't believe it when I was. In fact, I only really believed that I had been accepted when I received the official sponsorship letter.

It was a dream come true as it was something that I had always very much wanted for a long time. I will forever be grateful for this once-in-a-lifetime opportunity. Thank you so much, MPA.

With the sponsorship, I will be pursuing a Master of Science in Maritime Studies degree on a full-time basis. The minimum period for the course is one year, so I will be in Singapore until July 2020.



Apart from the technical knowledge that my studies here will impart, I hope to gain insights from other people in the maritime industry. I know that I still have much to learn about the industry. I hope to meet and network with new people from different maritime sectors so that we can share insightful ideas. If time permits, I would like to attend some conferences and exhibitions. Lastly, I would like to learn more about the diverse, multi-cultural aspects of Singapore, and visit various tourist attractions such as the Marina Bay and Sentosa.

While I am excited about being given the opportunity to study in Singapore, I am also looking forward to return to Namibia when I complete my course. I would like to go back to my employer, Namibia Port Authority, to share and apply all the skills and knowledge that I had learnt throughout the course. Since the Namibia Port Authority is both a port authority and an operator, we have the huge responsibility of developing and managing ports in Namibia. I believe we can learn a lot from a leading port authority such as MPA. On my part, I will continue to do my best to help the port authority achieve its overall business goals, and meet the needs of our key stakeholders.



03: CONTRIBUTION

THE ROLE OF MARITIME ENERGY MANAGEMENT IN PROMOTING THE DEVELOPMENT OF SUSTAINABLE PORTS BY MR VU BA HUY

Ports around the world play a significant role in linking ships with the shore in the global supply chain. As global seaborne trade volumes continue to grow and shipping lines deploy more and more larger containerships, ports find themselves needing more land and energy to continue operating optimally. At the same time, they are working to achieve sustainability through a host of measures including corporate social responsibility initiatives for the local community.

Mr Vu Ba Huy, who has studied in the World Maritime University through a scholarship from the Maritime and Port Authority of Singapore enhanced technical cooperation and training package for the International Maritime Organization and its Member States, looks at how ports around the world are working to achieve this goal, and the importance of designing and implementing a robust energy policy and Port Energy Management System (PEMS).

HORIZON > 03: CONTRIBUTION

THE ROLE OF MARITIME ENERGY MANAGEMENT IN PROMOTING THE DEVELOPMENT OF SUSTAINABLE PORTS

WHY DO PORTS NEED PORT ENERGY MANAGEMENT?

The primary force driving the need for PEM is air pollution arising from port activities, which in turn result in health problems for the surrounding community. The main pollutants from ports are carbon dioxide (CO₂), sulphur oxide (SO_x) and nitrogen oxide (NO_x). As a result, local communities and stakeholders are exerting pressure on ports to take steps to minimise the amount of pollution generated at and by ports.

In addition, national and international regulations require ports to reduce Green House Gas (GHG) emissions. In 2017, 125 nations ratified the Paris Agreement, where the long-term goal is to keep the increase in global average temperature to well below 2°C above pre-industrial levels. Under the Agreement, each country must determine, plan and regularly report on the contribution that it undertakes to mitigate global warming.



Figure 1: Ship-port interface (Source: WMU)

In 2018, flag states also agreed on the initial International Maritime Organization's (IMO) goal of reducing GHG emissions by at least 50 per cent by 2050 compared to 2008. Similarly, the European Union (EU) Energy Security Strategy has set a target of a 40 per cent cut in GHG emissions compared to the 1990 level. Hence, ports will also need to set both short- and long-term targets for reducing air pollutants in order to contribute towards the regional and national goals.

With these emission targets in mind, ports still have to strive to meet the growing demand for their facilities and services borne on the tide of rising global trade volumes. For the ports of today, physical expansion is not the best solution today. On top of the additional infrastructural investment, ports would have to acquire more land. With space being at a premium and the infrastructure capital intensive, pursuing this strategy is particularly costly. In addition, with growing environmental concerns, ports looking to expand physically would have to undergo the often-long process of negotiating with the local authorities for such an expansion.

The better way forward therefore is through enhancing energy efficiency through continual improve. This will reduce fuel consumption and achieve better results whilst using the same resources. In addition, the emergence of new technologies, such as digitalisation 4.0, enable ports to easily apply new energy-efficient systems at their terminals. PEMS also helps them to hone their competitive edge through better services and reputation.

HOW DOES REGIONAL POLICY HELP?

Regional and port energy policies set the legal and regulatory framework to implement an energy action plan to achieve both short-term and long-term targets. In Europe, the EU Port regulation 2017/352 outlines initiatives to simplify procedures in ports and enhance the environment of ports by promoting good practices. The “Port of the Future” is a result of this EU regulation that encourages innovation in ports and their links with cities. For example, it suggests that the area around a port should be surrounded by trees, which will not only make for a greener port but also create a more eco-friendly environment for people in the area.

The EU has also established the European Sea Ports Organization (ESPO) to assist policymakers in understanding policy initiatives. According to the ESPO report, managing energy consumption in European ports is now the No. 2 priority in terms of environmental concerns. The report helps policymakers better understand all the environmental issues, which in turn enables them to identify their priorities and design the plans to address these issues. Besides, the ESPO allows European ports to be rewarded according to their performance in PEMS. By completing a self-diagnosis checklist that provides data to the ESPO, they can be accorded “EcoPort” status if they meet the requirements of the Port Environmental Review System (PERS).

Another eco-port programme is the World Port Climate Initiative (WPCI), which was created by the International Association of Ports and Harbors (IAPH) and involves 55 of the world’s key ports. This programme aims to raise awareness in the port and maritime community, and provides strategies to help reduce GHG emissions from ships and improve air quality. For instance, Busan Port Authority said it will give clean seagoing vessels that have an Environmental Ship Index (ESI) of above 31 points a 15 per cent discount on the gross tonnage (GT) portion of their entrance fee of port dues.

Apart from these specifically eco-port programmes, ports are also encouraging the shipping industry to use cleaner fuels.

One such fuel is liquified natural gas (LNG), which offers itself as a promising alternative fuel for the shipping industry. As a result, more ports around the world will invest in and craft policies related to LNG bunkering services in their terminals.

Various countries have started the ball rolling. In Europe, the Trans-European Transport Network (TEN-T) project involves the building of an efficient transportation network. One of its main tasks is to establish the port network and infrastructure for the supply of LNG bunkers. Moreover, directive 2014/94/EU requires member states to draw up legal frameworks in the development of shoreside electricity facilities and LNG bunker in the port area by the end of 2025. Another case in point, in Asia, the Port of Singapore is building a new small-scale LNG facility to meet the growing demand for LNG bunker at this large port.

WHAT ROLE DOES THE ENERGY MANAGEMENT SYSTEM (EnMS) PLAY?

EnMS plays a vital role in improving Energy Performance Indicators (EnPIs) and saving maintenance and operating costs in ports. The system is based on the Plan-Do-Check-Act (PDCA) cycle and continual improvements. Figure 2 describes the PDCA cycle in an EnMS. In ports, there are some standard energy management systems, such as ISO 50001 and Port Environmental Review System (PERS in EU ports).

During the Plan stage, an energy policy is created, and an energy assessment is carried out to set out the Significant Energy Uses, Energy Baselines (EnBs), EnPIs, energy targets, and objective/s. An Energy Action Plan considers what needs to be done, what resources will be required, the persons responsible, and the date for achieving the stipulated objectives and targets.

In the Do stage, the Energy Action Plan is implemented with support from other activities, such as training, communication, documentation, and operational control.

In the Check stage, an internal energy audit evaluates the EnPIs to identify nonconformities and corrective action. The EnPIs are compared with the EnBs, and the energy target to track the improvement. In the final stage, the port carries out corrective action to continually improve EnMS and achieve higher EnPIs.

Table 1 shows the initiatives and strategies which ports around the world using in an EnMS typically undertake. During the whole process, all essential records must be documented and made available to all interested parties.

Port	Initiatives	Strategy
Port of Genoa, Italy	<ul style="list-style-type: none"> • Improve the energy efficiency of buildings, public lighting, and cargo transport • Use renewable energy in buildings, such as solar and wind power 	Goals at an urban level and at a building level.
Port of Hamburg, Germany	<ul style="list-style-type: none"> • Harness renewable energy: Wind farm, solar power • Carry out biomass energy developments • Increase the energy efficiency of the infrastructure • E-vehicles for port operations • Alternative power for berthing vessels 	Towards a sustainable energy future.
Port of Los Angeles, USA	<ul style="list-style-type: none"> • Establish EnMS • Terminal Assessment programme • LED lighting programme • Fund the development of technologies and businesses that enhance the five Energy Pillars • Renewable energy program: Evaluate and incorporate solar 	Five Port Energy Pillars: Availability, Reliability, Efficiency, Sustainability, and Resilience
Port of Long Beach, USA	<ul style="list-style-type: none"> • Clean Vehicle and equipment, technology and fuels • Freight infrastructure investment and planning. • Freight efficiency • Energy resource planning 	Clean Air Action Plan.

Table 1: List of initiatives and strategies in EnMS

HORIZON > 03: CONTRIBUTION

THE ROLE OF MARITIME ENERGY MANAGEMENT IN PROMOTING THE DEVELOPMENT OF SUSTAINABLE PORTS

WHY ARE PORTS INVESTING IN ENERGY MANAGEMENT RESEARCH?

Ports, managers, and policymakers are increasingly investing in research on improving port energy-efficiency. Maritime universities around the world should take the lead in researching Port Energy Management, and some have. For instance, along with the regular specialisations, in March 2019, World Maritime University (WMU) launched the Maritime Energy Postgraduate Diploma by Distance Learning for students around the world. This programme equips maritime professionals with the technical and socio-economic-environmental knowledge of energy efficiency in ports as well as shipyards and ships.



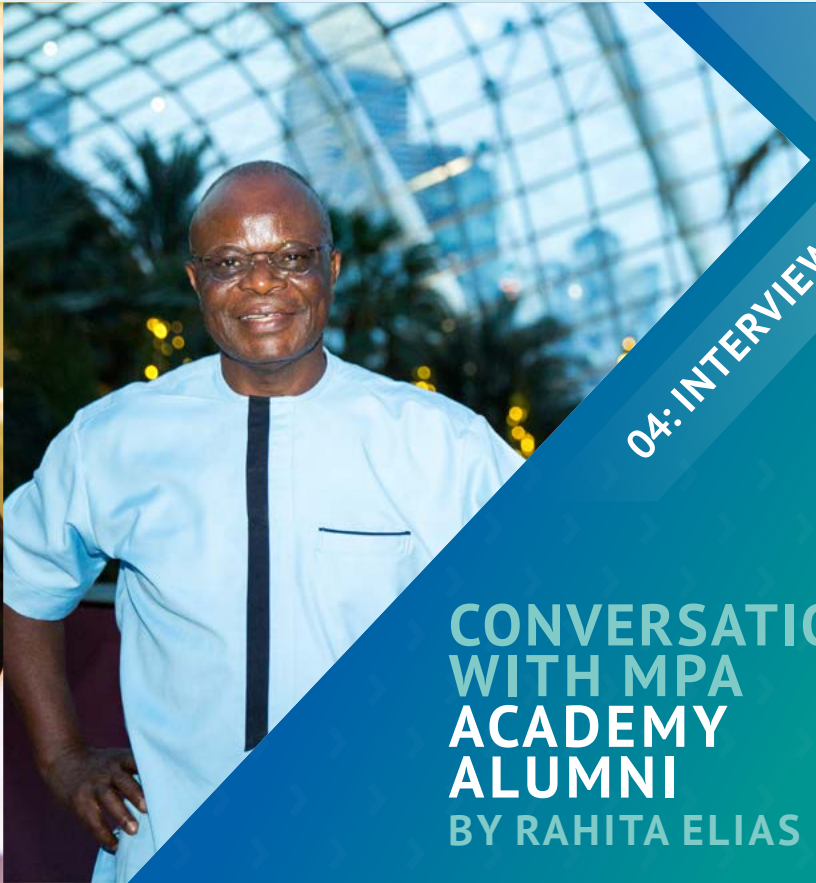
Figure 2: PDCA cycle (Source: ISO 50001)



ABOUT THE AUTHOR

Working as a maritime surveyor in the Sea-going Department of Vietnam Maritime Administration, Mr Vu realised that Maritime Energy Management (MEM) would be the next big wave in his country's maritime industry. He saw then that understanding the new IMO regulations relating to MEM, and implementing them on the national level would be important. Through his MPA scholarship, he is pursuing a Master's course in MEM at WMU in 2018-2019, which is providing him with a holistic view of energy management in ports, shipyards, and ships. He is keen to bring this knowledge back to his country and assist Vietnam's maritime port authority in enhancing its energy management.

All photos courtesy of Mr Vu Ba Huy.



04: INTERVIEW

CONVERSATIONS WITH MPA ACADEMY ALUMNI BY RAHITA ELIAS

The Advanced Maritime Leaders' Programme (AMLPL) had its biggest ever turnout this year as a result of Singapore's commitment to enhance its technical cooperation and training package for the International Maritime Organization and its Member States. Both AMLP and the Maritime Public Leaders' Programme provide an excellent forum for maritime leaders from around the world to gain invaluable knowledge and networking opportunities with their peers. In this article, two alumni speak of their experiences and how it has impacted them and the work they do.



Awang Haji Salihin bin Haji Aspar

Chief Executive

Maritime and Port Authority, Brunei Darussalam

As a teenager, Awang Haji Salihin wanted to travel the world and sail the seven seas. He realised his dream by joining the shipping industry in the late 1980s. At a time when few from country were pursuing a maritime career, he was motivated to take up the challenge and excel in the exciting world of shipping.



I have been involved in the shipping field for two decades. In that time, I have found that a shipping career is both versatile and international in nature. In particular, it was the international nature of the business that drew me to the maritime world. Straight out of high school, I wanted to travel and see the world – and becoming part of the maritime industry was my passport to realising that dream.

It has been a very fulfilling voyage for me. Today, I am Chief Executive of the Maritime and Port Authority, Brunei Darussalam (MPADB), and am responsible for the effective administration and management of the functions and affairs of the Authority in accordance with its policies.

The MPADB itself was established less than two years so we are still a relatively young organisation. It has been a journey of transformation. One of our main challenges is the segregation of our regulatory function as an Authority and our service function as a port. As part of this segregation, the Muara Port was privatised. As a result, a private entity has been managing and operating the port since July 2018.

As a corporate body, the MPABD's other significant challenge is to maintain the Authority's long-term financial sustainability and stability. In line with this goal, the Authority is reviewing the existing tariffs and streamlining the business processes for greater efficiency.

In designing our processes and functions, I think ports from around the world can learn from each other. That is why I found both MPA Academy's Maritime Public Leaders' Programme (MPLP) and Advanced Maritime Leaders' Programme (AMLPL) helpful. The best part about these programmes is that it gives us, the participants, the opportunity to meet with the industry

HORIZON > 04: INTERVIEW

CONVERSATIONS WITH MPA ACADEMY ALUMNI



professionals from across the globe. This exposure gives us the great experience of being able to learn directly from the people who have vast knowledge and experience on emerging issues facing the maritime industry. I believe that this opportunity has not only benefited me but will also bring positive changes to my organisation.

Through these two programmes, I have acquired a certain level of knowledge and skills particularly on managing change and transformation. This knowledge has proven to be a very useful tool in my current roles and responsibilities in transforming the Marine and Ports Departments into the MPABD.

Overall, I would say that both the MPLP and the AMLP are well planned and organised as they are able to bring maritime administrators from different continents to sit together and share knowledge and information. I think an additional visit to Oil Spill Response Limited (OSRL) in Singapore would benefit the participants and enable us to learn more about preventing and responding to an oil spill, and protecting the marine environment.

Charles Gono

Deputy Commissioner
Liberia Maritime Authority

Charles Gono comes from a professional family, whose father is a doctor and mother an entrepreneur. But it was his marine engineer brother who introduced him to the world of shipping. Now as the Liberia Maritime Authority Deputy Commissioner, he works to encourage his country to ratify conventions which are in the best interest of Liberia's maritime industry.



The Liberia Maritime Authority has quite an extensive portfolio. Our work includes but is not limited to the supervision of five departments, namely:

- Marine Environment
- Maritime Security, Search and Rescue and International Port and Ship Security Code implementation
- Survey, Safety Inspection Audit and Port State Control
- Vessel Registration, and
- Shipping and Facilitation

In carrying out our responsibilities, we face some challenges. For instance, we need to keep track of the competitive changes in the global ship registration business. As more countries join ship registration as a means of national revenue generation, we have to go beyond the traditional ship registration sphere. In order to remain at the top, we must implement new technologies such as digitalisation, and enter into regional maritime transport agreements with regions where our flag vessels trade. We have established a presence in all the major shipping regions in the world so that we can serve our customers' needs effectively. At the same time, we provide protection for our seafarers, and ensure their safety at all times.

On my part, I represent our Government in regional and international maritime conferences including the Association of African Maritime Administrations. I have developed regulations for new conventions that are to be implemented, and designed a new domestic programme



relating to port state, coastal state and flag state responsibilities. In addition, I am encouraging our government to ratify new and existing conventions that are in the best interest of our maritime programmes. I am also encouraging stakeholder participation across other government ministries and the business sectors.

In carrying out my responsibilities, I found the knowledge I gained from the Advanced Maritime Leaders' Programme (AMLP) to be quite useful. Our country had decided to take part in the programme so that we could get an understanding of the Singapore experience, and its shipping and shipping-related business strategies. More specifically, we were interested to see the change agents, the men and women that are the driving force behind Singapore's success story.

Taking part in the programme helped us to decide on what to add to or drop from our maritime programme. My own biggest takeaway from the programme was that working with department heads would improve the quality of work in their departments while developing a conducive gender-balance working environment will lead to safety and productivity. I also personally love the topic on transformation leadership, digital transformation, and robotic technology in shipping.

Overall, the AMLP is a very wonderful and practical programme. However, I think we need to include some theory on trade. We would also love to hear more from the great speakers, and have copies of their speeches.



05: INTERVIEW

RIDING THE WAVES OF CHANGE

BY CHRIS CHUA

In line with MPA Academy's efforts to document institutional knowledge of the MPA and the maritime sector, oral history interviews are conducted with key maritime leaders and personalities to capture their personal recollections about the development of Maritime Singapore.

This issue, Mr Teo Siong Seng, Executive Chairman and Managing Director of Pacific International Lines Pte Ltd ("PIL"), shares about the company's evolution and challenges in navigating the future. Incorporated since 1967, PIL was founded by Mr Teo's father, Mr Chang Yun Chung, and has grown to be the largest ship owner in Southeast Asia with a focus on Asia, Africa and the Middle East. Ranked ninth among the top containership operators in the world, PIL's businesses range from shipping to container manufacturing and logistics-related services.





Q: *How did you get started in the shipping business?*

Growing up in the family business, I heard about shipping all the time, whether it was conversations at the dining table or at gatherings with my dad's business partners. But it was the voyages that had the biggest impact on me wanting to join PIL. I went on my first ship voyage to China when I was 16 years old, and made two more trips in the following years. As a deck cadet, I gained exposure to the ship's functions, picked up basic navigational knowledge, learnt how to communicate with the crew and discovered how the different departments on the ship coordinated with each other. I also helped out at the PIL office during my school holidays, from Secondary Three until my university days, which gave me an opportunity to learn about the different departments within the company.

Q: *What were the biggest challenges that PIL faced in the early years?*

There was the 1973 oil crisis, when the oil price shot up. Then the Asian financial crisis in 1997 led to the devaluation of Asian currencies and declining imports. During the severe acute respiratory syndrome (SARS) crisis in 2003, PIL's subsidiary Singamas Container Holdings Ltd in China was badly hit and some of its factories had to stop production. It was scary in the sense that our operations could have come to halt and our ships could not enter certain regions.

Q: *Were there any shipping incidents that left a deep impression on you?*

There were several, ranging from vessel accidents to humanitarian incidents and ship hijacks. In 1981, our vessel, *Kota Sentosa*, sank off the west coast of India with only four survivors. Then in the early 1990s, another ship, *Kota Suria*, collided with a passenger ferry in the Philippines. Fortunately, the Master remained calm and averted further casualties by continuing to engage the ferry. This prevented the ferry from sinking straight away, enabling its passengers to climb to safety on board our ship.

During the Vietnamese refugee crisis, one of our ships that was on the way to China to be scrapped picked up 300 refugees, no country wanted to take them in. Thankfully, eventually the Red Cross in the Philippines was kind enough to accept them.

In 2009, *Kota Wajar* was hijacked off the coast of Africa. Throughout the incident, we focused on ensuring that operations continued to run normally, while trying to calm the crew's families and rescue them as soon as possible. Despite the hijacking, we did not declare General Average (GA) – a principle of maritime law where all stakeholders in a sea venture proportionally share any losses resulting from a voluntary sacrifice of part of the ship or cargo to save the whole in an emergency – as we wanted to continue serving the trade. We eventually delivered all the goods to our customers and paid them back because we did not want to burden our customers, who were already affected by the delay and other issues. After the crew were rescued, we provided them with counselling and made sure our port manager was there with their families to receive them when they arrived back at their home port.



Q: *Have there been any changes in how PIL manages shipping incidents over the years?*

Previously, we had a more intuitive way of responding to such incidents. My father would be called, followed by the Operations Manager and together with a few others they would sort it out. Later on, we developed a more systematic way to handle such incidents. We formed a Crisis Management Team and periodically conducted dry runs to prepare for different scenarios. In addition, a Quality, Safety and Standards (QSS) team was set up to ensure that our practices adhere to the International Safety Management (ISM) Code. Procedures for handling shipping incidents were also put in place, which are audited annually according to the ship's classification.

Q: *What challenges did PIL face when operating in troubled regions such as Africa and the Middle East?*

When the Iraq-Kuwait war broke out in 1990, PIL was the only shipping company serving the port of Aqaba that linked Jordan to the outside world. We were delivering essential cargo for survival, such as food stuff, and medical supplies, to the people of Jordan. Despite facing checks from the US Navy and other navies patrolling the region, we persisted with our service delivery, and because of this, we gained a reputation as a reliable company.

The key challenge we face in Africa is political upheaval. For example, there was a coup in Cote d'Ivoire a few years ago, where the outgoing President refused to step down, leading to political and social unrest. Other challenges include disease outbreaks, such as Ebola, and poor infrastructure. But despite these conditions, we continue to serve the region, and have secured a reputation as the most effective Asian shipping line with the most extensive and active presence in Africa.



Q: *How has being a family-owned business affected the way PIL is run?*

Being a family-owned business, we offer our customers a personal touch. When we started, PIL was run like a provision shop in terms of our personalised service. Today, we have grown to be like a supermarket in terms of size, but we still run PIL like a provision shop in that we do take a very personal approach. For example, we are still in contact with a client from Yemen who was forced to move overseas because of the Yemen Civil War.

Q: *What sets PIL apart from the bigger shipping lines?*

The difference between us and the big shipping conglomerates is this personal touch. Clients can call me or my directors directly when they deal with us, so there's a face to the company. This is unlike the bigger companies which are less personal. Apart from this, we have consistently established our relationships with our customers over the years, some of whom have been with us for many decades, such that we now deal with the second and third generations. In emerging markets, you need these sort of contacts to get things done.

In addition, we are the only one among the world's top 12 containership operators that is not in any ocean-carrier alliance. We seek to be alliance-neutral. This gives us flexibility in the trade lanes we operate, while at the same time allowing us to enjoy cooperation with the alliance members.

Q: *What are the key focus areas for PIL moving forward?*

Our focus is firstly on enhancing our systems to ensure our vessels are efficiently deployed. Secondly, we will build our shore-based capability with regard to logistics, depots and trucking in China, Africa and Southeast Asia. While we have depots in different regions such as Australia, Indonesia and Bangladesh, each of them operate individually. Moving forward, we will be looking to link them up. So with shipping as our base, we will be focussing on developing the port-to-port aspect of our business to build up our shore capability, so as to enhance our competitiveness.

Thirdly, we are harnessing new technologies such as blockchain and big data analytics to grow our capabilities and enhance our business operations. In 2017, we partnered with PSA and IBM to test a blockchain platform tracking cargo from Chongqing, China to Singapore via the Southern Transport Corridor – a key route being developed as part of China's Belt and Road initiative. The following year, we teamed up with IBM to create a blockchain electronic bill of lading, in a collaboration that was backed by MPA and the Singapore Shipping Association (SSA), among others. In addition, we will leverage big data analytics to help in areas such as navigation and maintenance, by enabling the data captured through onboard sensors to generate insights that will drive decision making.

Q: *Can you share the high points of your career?*

I guess that would be taking on the Presidency of the SSA from 2003 to 2011. During my tenure, I successfully lobbied to have the Asian Shipowners' Forum (ASF) Secretariat located permanently in Singapore, as I believed it was important to enhance Singapore's position as a maritime centre and allow the Secretariat be a platform for Asian ship owners to speak up constructively on environmental protection and other initiatives related to shipping policies. This enabled the ASF to be more effective and better organised with support from MPA and the Ministry of Transport (MOT).

Another highlight was setting up a youth wing at SSA that provided a platform to connect young executives in the shipping industry and nurture future leaders.

Q: *Looking back, is there anything that you wish you could have done better?*

We could have devoted more planning and time towards training our management team for deployment at PIL's overseas offices, and adopted a more systematic way of training our floating staff, such as the ship captains and chief engineers, among others. This would have helped in ensuring we provided a consistent standard of service to our customers. Back then, we were expanding our fleet very fast and we were not as well organised before with regard to this.

Q: *What do you think contributed to the success of Singapore as an International Maritime Centre?*

Our geographical location, open policy, and our pro-business environment. At the same time, I think it's important to build up the different parts of the maritime industry ecosystem. For example, we can go further if we can build up more capabilities, such as in conveyancing and arbitration, which will in turn attract more people.

As a maritime nation, I believe that building a Singapore core for this sector is key to staying competitive. I hope that through the MPA, Singapore Maritime Foundation (SMF) and Singapore Maritime Institute (SMI), more can be done to advertise to schools and universities about the career opportunities in this industry. Meanwhile, PIL contributes to this by working closely with the local polytechnics, the Singapore Maritime Officer's Union (SMOU) and the Singapore Organisation of Seamen (SOS) to develop local talent for the industry. We take on as many Singapore cadets as possible, including mid-career entrants under the Seafaring Alternative an Investment for Life (SAIL) scholarship. Even if the locals do not rise to the rank of ship captain in the end, they can still contribute to this industry by taking on shore-based jobs such as marine surveyors or shippingbankers, among others.



Q: *What is your assessment on the outlook for the shipping industry?*

The biggest concern for the industry is the global uncertainty brought on by the trade wars. On a separate note, the supply-demand situation is likely to be more in equilibrium over the next few years, with new ship supply standing at about eight percent of the fleet, tighter liquidity weighing on the new-builds programme and many shipyards closing down. Going forward, with less new ship supply coming on-stream and more discipline among the shipping lines, we will hopefully see better returns for the maritime industry.

All photos courtesy of PIL.



06: HIGHLIGHTS

LOOKING AT 2019

MARITIME TRAINING FOR OVERSEAS PORT AND MARITIME OFFICIALS

3rd Advanced Maritime
Leaders' Programme



6th Port Management
Programme

9th Maritime Public
Leaders' Programme



HORIZON > 06: HIGHLIGHTS

LOOKING AT 2019 – MARITIME TRAINING FOR OVERSEAS PORT AND MARITIME OFFICIALS

Reception at the 69th session of Technical Cooperation Committee



World Maritime University Study Visit for MSc Students Specialising in Port Management



Launch of the WMU-Koji Sekimizu PhD Fellowship

World Maritime University Study Visit for MSc Students Specialising in Shipping Management and Logistics



Regional Workshop on the Implementation of the IMO Member State Audit Scheme (IMSAS), Singapore



12th Maritime Safety Management Course Conducted by MPA and Japan Coast Guard

Regional Train-The-Trainers Workshop on the Delivery of the National Training Course Focused on Implementation of IMO Conventions



National Workshop on MARPOL Annex V and Port Reception Facilities (PRFs), Philippines



IMO training on the International Safety Management Code in Tanzania

HORIZON > 06: HIGHLIGHTS

LOOKING AT 2019 – TECHNICAL STAFF TRAINING

TECHNICAL STAFF TRAINING

MARINE OFFICERS, MARINE SURVEYORS, PORT INSPECTORS

OSRL Level 2 Course



MARINE OFFICERS, MARINE SURVEYORS, PORT INSPECTORS

Basic Occupational Safety and Security Training Course



MARINE OFFICERS, MARINE SURVEYORS, PORT INSPECTORS

LNG Bunkering Course

MARINE OFFICERS, MARINE SURVEYORS, PORT INSPECTORS

Bridge Resource Management



PORT CHEMISTS

Accessing Confined Space for Safe Entry and Work Course

BRIDGE RESOURCE MANAGEMENT COURSE

MARINE OFFICERS, MARINE SURVEYORS, PORT INSPECTORS

Practical Incident Investigation and Root Cause Analysis



PORT CHEMISTS

Chemical Safety Awareness Course



VESSEL TRAFFIC SERVICE OPERATORS

Vessel Traffic Service Operator Course

CHEMICAL SAFETY AWARENESS COURSE

ENGINEERS

Project Management Professional Course



HORIZON > 06: HIGHLIGHTS

LOOKING AT 2019 – TECHNICAL STAFF TRAINING

IT OFFICERS

ISO 45001:2018 – Internal Auditor Course



IT OFFICERS

Maritime Risk Assessment Course

IT OFFICERS

Cyber Security by Design

CYBER SECURITY BY DESIGN

IT OFFICERS

Navigating IP Through R&D Collaborations

NAVIGATING IP THROUGH R&D COLLABORATIONS



HYDROGRAPHERS,
CARTOGRAPHERS,
SURVEY OFFICERS

Basic Course for Cartography

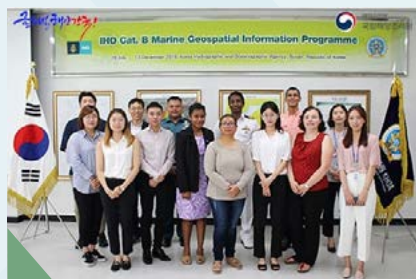
HYDROGRAPHERS,
CARTOGRAPHERS,
SURVEY OFFICERS

Basic Course for Hydrographic Survey



HYDROGRAPHERS,
CARTOGRAPHERS,
SURVEY OFFICERS

IHO Cat 'B' Nautical Cartography



HYDROGRAPHERS,
CARTOGRAPHERS,
SURVEY OFFICERS

Cat B Marine Geospatial Information Programme

HYDROGRAPHERS,
CARTOGRAPHERS,
SURVEY OFFICERS

QGIS Foundation and Intermediate Courses

QGIS FOUNDATION AND INTERMEDIATE COURSES

HORIZON > 06: HIGHLIGHTS

LOOKING AT 2019 – TECHNICAL STAFF TRAINING

OTHERS

Design Thinking for Innovation Course



OTHERS

L&E Claims Course



OTHERS

Media Spokesperson Training Course

OTHERS

Cyber Security Awareness



HORIZON > 06: HIGHLIGHTS

LOOKING AT 2019 – THOUGHT-LEADERSHIP TALKS

THOUGHT-LEADERSHIP TALKS

Maritime Sector Strategies to Augment Tsunami Monitoring with Economic, Safety and Environmental Co-benefits Roundtable



Fireside Chat with Ambassador Tommy Koh

Sharing Session by Capt Khong Shen Ping and Capt Wilson Chua



Sharing Session by Mr Bilahari Kausikan



Sharing Session with Prof Lui Pao Chuen



Sharing Session with Singapore Customs



Bunker Spill Briefing



Maritime Blockchain Forum

Maritime AI Roundtable





On 22 May 2019, 170 participants across the shipping industry came together for the second Maritime Blockchain Forum. Organised by the MPA Academy, the event offered a platform for three leading blockchain practitioners, Mr John Lim, Mr Ng Kay Tick and Mr Anjaney Borwankar, to share initiatives and learning points aimed at fostering experimentation and collaboration in blockchain. Their presentations were followed by a panel discussion that touched on topics ranging from blockchain applications to joining a blockchain consortium.



EFFICIENCY



SECURITY



COST SAVINGS



TRANSPARENCY

SPEAKERS & PANELISTS

Mr John Lim
Head of Business
Development at
LongHash



Mr Ng Kay Tick
Director of Business
Development at Samsung
SDS Asia Pacific



Mr Anjaney Borwankar
Co-founder and Chief
Strategist of Navozyme



Mr Loh Sin Yong
Director (Trade) of
Trade and Connectivity
Cluster, Infocomm Media
Development Authority



Mr Abhinav Sahai
Co-founder of
SG Smart Tech



BENEFITS AND CHALLENGES OF ADOPTING BLOCKCHAIN PLATFORMS *by Mr John Lim*

“An increasing number of multinational corporations and governments around the globe have embraced blockchain technology. Similarly, several companies in the maritime industry, including Maersk, APL, Hyundai Merchant Marine and CargoSmart, have developed blockchain platforms to improve processes to drive greater efficiency, security and cost savings.



For companies seeking to adopt blockchain technology, it is important to stay educated and keep abreast of developments in their industry vis-à-vis blockchain technology. The challenges include the difficulty of attaining the network effect and ensuring the accuracy of data inputted on the blockchain platform, since data stored on the platform is immutable.”

HARNESSING BLOCKCHAIN TO AUTHENTICATE MARITIME DOCUMENTATION PROCESSES *by Mr Anjaney Borwankar*

“Navozyme’s first use case involves the Maritime Industry Authority (MARINA) in the Philippines and seafarers’ certification. The platform enhanced the exchange of real-time authentic certification data in a secure and digital manner between MARINA and permissioned stakeholders. Besides eliminating the risk of fraudulent certificate issuance, it streamlined process flows to enhance safety, productivity and the reputation of the Philippines maritime industry.



Secondly, Navozyme’s blockchain-enabled platform offers a more efficient and secure vessel registration process. It enables easy exchange of authentic certification data for new ship registrations among permissioned stakeholders, while offering benefits such as quicker process turnaround, simpler tracking of vessels and easier auditing and bookkeeping.

When implementing blockchain applications, four areas should be considered – real needs, awareness and education, original and pioneering business models, and interoperability – all of which need be underpinned by mindset change.”

SAMSUNG SDS: ENHANCING TRANSPARENCY, SECURITY AND EFFICIENCY IN MARITIME TRADE THROUGH BLOCKCHAIN

by Mr Ng Kay Tick



“Samsung SDS, together with a consortium of 38 members, started the Ocean Shipping Logistics Blockchain Consortium in 2017. Aimed at improving end-to-end visibility, transparency, process automation, security and scalability, the consortium’s pilot scope dealt with real industry issues and covered a wide range of routes from Korea to Hong Kong and Vietnam. In the Proof of Concept (POC) review, commercial invoices were inputted into the blockchain system and shared with stakeholders to ensure data integrity and prevent data fraud.

Meanwhile, incorporating IoT elements enabled accurate time-stamping and location-tracking data to be captured on the blockchain, allowing it to be shared transparently. In addition, permissioned blockchain enhanced security by limiting information access to relevant parties.

The implementation methodologies for effective blockchain application deployment include conducting a blockchain value assessment, developing a platform-based prototype, integrating the blockchain application to your backend system and preparing for operation.”



HIGHLIGHTS OF THE PANEL DISCUSSION AND Q&A

Q: *What is the most basic application for blockchain?*

Mr Sahai: It can be something as simple as a blockchain platform that allows the booking of passenger boat trips online between shore to ship and enables timely payment to vendors.

Mr Lim: With the emergence of decentralised marketplaces allowing products to be sold without control by any centralised party, blockchain solutions can now be downloaded directly onto smartphones for consumers' use.

Q: *What does it take for an organisation to join an existing blockchain consortium?*

Mr Borwankar: It is important to make sure the organisation's motivations are aligned with the consortium's purpose and to focus on building trust with other organisations in the group.

Q: *How can we bring a consortium to blockchain application and get users on board?*

Mr Borwankar: It is important to share with consortium partners about the benefits of blockchain in improving processes so that they saw the economic value.

Mr Sahai: People may not understand blockchain, but explaining the use cases of blockchain and its benefits in terms of efficiency and cost savings would help convince them.



FINAL THOUGHTS ON EMBARKING ON BLOCKCHAIN

Mr Lim: It is important to be constantly updated on blockchain technology as it is continually developing.

Mr Ng: Prepare the change and accept the change, as blockchain will impact companies and consumers.

Mr Borwankar: Don't blindly hop on the blockchain bandwagon, as blockchain was not needed for everything.

Mr Loh: Blockchain is not the mother of all solutions. The focus should be about solving real-life problems, with blockchain as just one of the tools.

Mr Sahai: When startups develop blockchain protocol, they should focus on the customer and how it benefits them.





08: PEOPLE

SAFETY FIRST FROM SHIP TO SHORE BY ANGELA CHEW

Ensuring safety on our shores begins at sea. Every day, a team of port chemists and chemist assistants serve a critical role as our front-line safety officers. Working in teams, they carry out stringent inspections to ensure that tankers entering the shipyards are free of flammable vapours. If it is left unchecked, it could lead to a potential explosion.

As the training arm of the Maritime and Port Authority of Singapore (MPA), the MPA Academy organises courses to enhance the technical competencies of staff and to better equip them to perform their duties. To this end, the Academy works with the MPA line divisions to organise relevant technical training courses. These include the Basic Occupational Safety and Security Training (BOSST) course facilitated by the MPA Academy and conducted by Singapore Polytechnic, and the Confined Space for Work course run by NTUC Learning Hub.

This issue, we sat down with Muhammad Reza Bin Mohamed Jaafar, a Port Chemist and graduate of these courses, to get an inside look at the training programmes and what it takes to keep Singapore safe.



Q: *What made you pursue a career at MPA?*

Previously, I was at PSA handling container operations. I wanted to expand my knowledge of the maritime industry. So, I joined MPA and have been here for two years.

Q: *What do you do as a port chemist?*

We have several responsibilities. Firstly, we conduct gas-free inspections for vessels entering shipyards and for vessels that wish to carry out hot works at the anchorages to prevent risk of explosion or fire accidents. Secondly, we conduct random spot checks of Dangerous Goods (DG) on-board container vessels at the port terminals. The purpose for the DG spot checks are to ensure DG are properly declared and stowed in accordance to the International Maritime Dangerous Goods (IMDG) Code.

Besides the above, we handle enquiries from shipping agents to freight forwarders on DG matters and take on ad hoc projects that contribute to the MPA future ready framework. For instance, I'm the project lead and part of the organising committee for the biennial International Chemical and Oil Pollution Conference and Exhibition (ICOPCE) that will be held this year. This event brings together different stakeholders and examines ongoing chemical- and oil related issues.

Q: *How long does each ship inspection take?*

On average, it takes about one hour, but it can be as long as two to three hours depending on the size and the number of tanks that the ship has on board.



Q: *What does it take to be a good port chemist?*

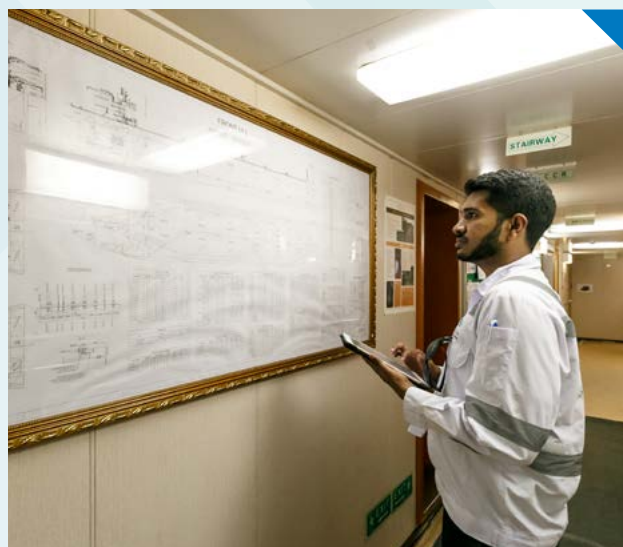
In addition to having the necessary technical knowledge, you need to have good interpersonal skills and must be able to relate well with people. When a ship fails an inspection, the crew may argue with you or pressure you to pass them. So you need to be firm, yet tactful. And, you must love what you do and know that it will make a difference to the safety of the ship and the Port of Singapore.

Q: *What are the challenges you face in your job?*

As non-mariners, we may be unfamiliar about certain practices on board a vessel. Sometimes it can be a challenge to grasp what an officer on board is trying to explain, as there can be gaps in terms of technical and operational knowledge between us. However, we do share some common ground in the fact that we are both interested in keeping the vessel safe for her operations in port.

Q: *Can you share any interesting experiences so far?*

One interesting event that happened early this year was the illegal dumping of chemical waste into a river at Pasir Gudang in Johor Bahru, Malaysia. Because of this incident, all chemists became part of a chemical site team where we were called to the front line and made daily checks on the air near the areas where the illegal dumping was reported. It was a fulfilling experience to be a front-line officer and to ensure that there were no harmful contaminants in the air.





Q: *What do you like most about your job?*

I like that it's not desk-bound and allows me to be outdoors. I get to interact with people across different nationalities and cultures. Mariners are very nice, friendly and welcoming people. I'm usually one of the first few faces they see after being out at sea for weeks. They will ask me about things they can do in Singapore for their shore leave. I'm like their tour guide!

Q: *How is the environment at work?*

It's a friendly environment. My senior colleagues and younger co-workers work well together. Some of us hang out together outside work too!

Q: *How has your training benefitted you in your work?*

The training has given me a holistic perspective of safety. The BOOST course was very good. I gained practical knowledge on different elements of ship safety, including dealing with fires and jumping into water from a height to simulate evacuating from a ship.

Q: *Where do you see your career going in the future?*

I want to remain in the maritime industry and continue honing my knowledge in this sector. I have a place in the Maritime Studies Master's degree programme at Nanyang Technological University (NTU). After that, I hope to gain exposure to other roles in MPA.

BY INVITATION:

Maritime Outlook Forum

Venue: MPA Academy

Date: Q1 2020

Participants: Maritime Industry

MPA Academy Alumni Gathering

Venue: Singapore

Date: April 2020

Participants: MPA Academy alumni members

Maritime Innovation Programme

Venue: MPA Academy

Date: 20-24 April 2020

Participants: Senior maritime officials

13th Maritime Safety Management Course conducted by MPA and Japan Coast Guard

Venue: MPA Academy

Date: July 2020

Participants: Maritime officials

Maritime A.I Forum

Venue: MPA Academy

Date: Q3 2020

Participants: Maritime Industry

Maritime Safety Management World Maritime University Study Visit for MSc students specialising in Port Management

Venue: MPA Academy

Date: March 2020

Participants: WMU MSc students specialising in Port Management

World Maritime University Study Visit for MSc students specialising in Shipping Management and Logistics

Venue: MPA Academy

Date: May 2020

Participants: WMU MSc students specialising in Shipping Management and Logistics

7th Port Management Programme

Venue: MPA Academy

Date: August 2020

Participants: Port masters, harbour masters, middle management personnel

10th Maritime Public Leaders' Programme

Venue: MPA Academy

Date: October 2020

Participants: Senior maritime officials

FOR MPA STAFF:

Vessel Traffic Officers

Q1 2020: VTS Bridging Courses

Q2 2020: VTS Supervisor Course

Q3 2020: VTS Operator Course

Q4 2020: VTS OJT Instructor Course

Marine Surveyors

Q1-Q4 2020: E-Learning

Q2 2020:

LNG Bunkering Course

Oil Spill Response Level 3

Q3 2020: GMDSS Course

(CONT'D) FOR MPA STAFF:

IT Officers

Q1 2020:

NICF – DevOps Foundation/
Leader/ Engineering
NICF – Designing Cloud Enabled
Mobile Applications

Q2 2020:

ISO 9001 Auditor Course
ISM Auditor Course

Q3 2020:

Emerging technologies – AI, Cloud,
Robotics Customer Journey Mapping
Blended Programme (CSC)

NICF – Certified Scrum Master
NICF – Cloud Native Solution Design

Hydrographers, Cartographers, Survey Officers

Q1 2020:

Technical Workshop on Aids
to Navigation in the SOMS
Occupational First Aid Course
Geospatial Foundation Programme

Q2 2020:

Basic Hydrographic Survey Course

Q3 2020:

IALA Level 1 AtoN Manager Course
Basic Cartography Course for Cartographers

Port Inspectors

Q1 2020:

Basic Occupational Safety and
Security Training Course

Q2 2020:

Oil Spill Response Level 2 Course

Q4 2020:

Drone Pilot Course

Port Chemists

Q1 2020:

Basic Occupational Safety and
Security Training Course

Q2 2020:

Oil Spill Response Level 2 Course

Civil Engineers

Q1 2020:

Project Management Professional
Value Engineering and Management
Extension of Time

Others

Q1 2020:

Occupational First Aid Course
Scenario Planning

Q2 2020:

Chinese Media Spokesperson Training Course
Sustainable Facility Management Solutions

Q3 2020:

Real Estate Valuation

ABOUT US

As the training arm of the Maritime and Port Authority of Singapore (MPA), the MPA Academy was repositioned in 2014 to be a full-fledged academy with a dedicated premise with a focus on global maritime leadership training. The academy's vision is to be a global learning centre for maritime and port administration. The academy's mission is to enhance the specialist skills and knowledge of MPA officers and to conduct flagship training programmes for overseas port and maritime officials, including supporting the training needs of the International Maritime Organization (IMO) as a Council member. The MPA Academy's dedicated facility is located at PSA Building and was officially launched in October 2015.

SUBSCRIBE

Horizon is a biannual publication of the MPA Academy, the training arm of the Maritime and Port Authority of Singapore (MPA). It is distributed free-of-charge to the Academy's associates and alumni. All copyrights in the publication belong to MPA. No part of this publication may be reproduced or distributed in any form or by any means without prior written permission from MPA. Views and opinions expressed in the publication are those of the author and may not necessarily reflect those of MPA. While every reasonable care has been taken by MPA in the production of Horizon, MPA makes no representations as to the accuracy and completeness of any information therein, and accepts no responsibility for any consequences of reliance on the same.

To subscribe, please email MPA_Academy@mpa.gov.sg

EDITORIAL TEAM

Tan Suan Jow, Peter Tan, Serene Liu

WRITERS

Angela Chew, Chris Chua, Rahita Elias

ADDRESS

460 Alexandra Road #25-04/05 PSA Building
Singapore 119963

CONTACT

Tel: (65) 6375 1239

Fax: (65) 6375 1709

Email: MPA_Academy@mpa.gov.sg

Website: www.mpa.gov.sg/web/portal/home/mpa-academy

DESIGN

Green House Design + Communications