

# HORIZON

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A TCTP workshop on the “Development of maritime energy efficiency and emissions strategies and their implementation” was held in conjunction with the Future-Ready Shipping Conference 2017 in Singapore.



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## 01: EDITOR'S NOTE

### HELLO

It is with great honour and delight that I have taken over the appointment as Dean of the MPA Academy from Capt Khong Shen Ping in April 2017. Since its inception in 2012, the MPA Academy has enjoyed the steadfast and nurturing leadership of our founding Dean, Capt Khong. The Academy has made incredible strides and became a full-fledged academy in 2014 with a dedicated premise. I would like to take this opportunity to acknowledge Capt Khong's many contributions to the Academy.

For me, 2017 has been an exciting year. I left a very operational and dynamic Shipping Division to embark on fresh challenges in this new chapter of my life, and I am truly humbled to be taking up the mantle as Dean.

Though there is a change in Dean, the focus of the Academy remains largely the same. Sharing maritime knowledge and expertise through training continues to drive our work. MPA Academy will continue to provide global maritime leadership training to overseas port and maritime administrators, enhance the specialist skills and knowledge of MPA officers, and support the training needs of the International Maritime Organization (IMO).

This issue of Horizon highlights Singapore's active contributions to technical training, capacity building and global maritime leadership development. Our *Feature* story "Supporting the training needs of the IMO" shines a light on the milestones and our team of dedicated trainers in the Singapore-IMO Third Country Training Programme.

# 01: EDITOR'S NOTE

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In “Bringing lessons to life”, we speak with World Maritime University Professor Song Dong-Wook from South Korea and two of his students – Mr Mohammad Azizul Moula from Bangladesh and Ms Solace Aseye Nyadroh from Ghana, to find out how their visit to Singapore has helped them towards enhancing port management standards back home.

In *People*, we hear from Mrs Nancy Karigithu, Principal Secretary of the Maritime Commerce, Ministry of Transport of Kenya, and Mr Sobantu Tilayi, Acting Chief Executive Officer of the South African Maritime Safety Authority, who talk about their experience in the Advanced Maritime Leaders’ Programme, while Mr Ishak bin Mohd Hassan, a Senior Port Inspector from MPA, shares his passion for his job out at sea.

We bring you the highlights of Mr Tan Puay Hin’s talks at the MPA Academy earlier this year, on container yard layout planning and port automation. Mr Tan is the Senior Advisor for Group Port Design & Connectivity of PSA International Pte Ltd and Senior Adjunct Fellow of the MPA Academy.

The MPA Academy also plays a key role in coordinating and driving technical training of MPA officers to enhance their competencies, and organising public lectures and thought leadership talks by prominent maritime industry leaders and academics covering a wide range of topics. Look out for these in *Highlights* and *Upcoming Events*.

To document institutional knowledge, the academy is working on case studies and oral history interviews with key maritime pioneers and maritime personalities. This is a relatively new effort for us but offers much value in terms of capturing the experiences of those who have played a key role in developing Maritime Singapore. In *Case Study*, you can read more about the 1997 Evoikos incident, which was the largest oil spill in Singapore’s history.

I am excited to see how MPA Academy can realise its vision to be a recognised global centre of learning for maritime and port administration and continue to play an important role to ensure that MPA staff are kept current in their competencies. I also look forward to getting to know you at our upcoming programmes.

**Tan Suan Jow**  
Dean, MPA Academy





## 02: FEATURE

# SUPPORTING THE TRAINING NEEDS OF THE IMO

By Rahita Elias

*1998 marked the launch of the trailblazing Third Country Training Programme (TCTP) when International Maritime Organization (IMO) and Singapore signed the TCTP Memorandum of Understanding (MOU).*

### Commitment Formalised

Aligned with the IMO's objective of "promoting safe, secure and efficient shipping on clean oceans", the Singapore-IMO TCTP MOU is the first of its kind in institutionalising a Member State's commitment to the IMO's Integrated Technical Cooperation Programme.

The Singapore-IMO TCTP MOU formalised the country's commitment to being part of the international maritime technical cooperation network. It also highlights Singapore's commitment to play a key role in ensuring the strength and stability of this network. Through the TCTP, Singapore sought and continues to seek to enhance IMO Member States' capacity to implement international maritime regulations and standards.

# 02: FEATURE

## SUPPORTING THE TRAININGS NEEDS OF IMO



2009 Regional Simulator Instructors Training Course



2010 Regional Workshop on Implementation of VIMSAS Audits

### Giving Back to the International Community

Under this MOU, Singapore contributes in-kind assistance to training programmes for developing IMO Member States in Africa, Asia-Pacific, Caribbean, Latin America and the Middle East in areas such as maritime safety, prevention and control of marine pollution, Code of Recognised Organisations (RO Code), and the IMO Member State Audit Scheme (IMSAS). The courses are conducted either in Singapore or in countries covered under the geographical scope of the MOU.

Singapore decided to undertake this endeavour because it understands from its own developmental experience just how critical technical assistance is in creating the right conditions for growth. Mindful of the help it had received as a fledgling independent nation, Singapore believes in giving back to the international community by providing training to other member countries.

### Major Milestones

Since the launch of the TCTP, the programme has achieved several major milestones.

In 2000, the MOU was extended indefinitely. Twelve years later, the geographical scope of the Singapore-IMO TCTP was expanded to include Latin America and the Caribbean. To date, more than 1900 participants from over 80 countries have been trained under the TCTP.



2012 Ballast Water Management Course



2013 Regional Forum on Vessel Traffic Services

# 02: FEATURE

## SUPPORTING THE TRAINING NEEDS OF IMO

### Staying Relevant

As a result, Singapore has shared its maritime expertise and development experience with participants from around the world through an extensive menu of courses covering relevant topics such as port state control, oil spill contingency planning, and training for simulator instructors. Even as existing courses are continually refined and updated to meet the evolving needs of the participants, new TCTP courses have been added. The courses have included workshops on the Ballast Water Management Convention and most recently, courses on the IMO Member State Audit Scheme (IMSAS) have been introduced.

Under IMSAS, the audit of all Member States became mandatory on 1 January 2016 to determine the extent to which Member States give full and complete effect to their obligations and responsibilities contained in a number of IMO treaty instruments.

In 2014, MPA sent a trainer to the Regional Workshop for Eastern & Southern Africa on IMSAS implementation in Namibia in July. Last year, MPA held its first regional workshop on IMSAS implementation in October in Singapore.



2014 Palau and Tonga National Workshop on VIMSAS Audit



2014 Train the Trainer on ECDIS

2015 Regional Workshop on the Development of a Regional Spill Contingency Plan for ASEAN



# 02: FEATURE

## SUPPORTING THE TRAINING NEEDS OF IMO



2016 IMO Regional Workshop on the Ratification and Implementation of the Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships in Ghana



2016 Regional workshop on IMSAS

In 2017, the courses conducted by Singapore included:

- The regional train-the-trainer course for simulator trainers and ECDIS instructors for the Pacific Islands, held in Fiji,
- The regional workshop on assessing, authorising and monitoring recognised organisations (RO) Code, United Arab Emirates, and
- The workshop on the development of maritime energy efficiency, emissions strategies and their implementation.



2017 TCTP Workshop on the Development of Maritime Energy Efficiency and Emissions Strategies and their Implementation

# 02: FEATURE

## SUPPORTING THE TRAINING NEEDS OF IMO

In September this year, 17 TCTP participants from around the world took part in a workshop on the “Development of maritime energy efficiency and emissions strategies and their implementation”. The workshop, held in conjunction with the Future-Ready Shipping Conference 2017 in Singapore, updated delegates on Global Maritime Energy Efficiency Partnerships’ (GloMEEP) work on legal, policy, and institutional reforms as well as the Maritime Singapore Green Initiative. This particular workshop was supported by the Singapore Cooperation Programme (SCP) which is the Singapore government’s main platform to provide human resource capacity building for developing countries.

### Dedicated Trainers

MPA’s TCTP trainers are a unique and dedicated breed of people. Equipped with both extensive knowledge and experience, they are committed to sharing their knowledge with participants while learning from them and their experiences too.

In particular, a Singapore-IMO TCTP trainer is more than just a teacher or subject matter expert. He or she is also a facilitator, bringing together a diverse group of people so as to help them understand their common objectives while providing the right structure for them to deliver optimal solutions.

Capt I G Sangameswar, Senior Assistant Director, Shipping Division (Training Standards), MPA, explains that the trainers do more than just impart knowledge to the participants.



## 02: FEATURE

# SUPPORTING THE TRAINING NEEDS OF IMO

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“As trainers, we need to understand their background, in terms of their knowledge of the subject, and the local conditions in the individual countries, so as to provide training which will best suit them. We also extend our hand of friendship so that trainees would feel at ease to answer their queries or seek advice even after the course.”

Mr Lim Hock Lye, MPA’s Senior Assistant Director, Shipping Division (Flag State Control), tells Horizon, “I try my best to share my practical experiences with TCTP participants so that they can take something useful back home to apply in their work. I also consciously motivate and encourage the participants to strive for improvement in their administration, and promote a safety culture.”

### **Thumbs up for TCTP**

As a result of the trainers’ dedication and abilities, participants such as Mr Sione ‘Akau’ola from Tonga and Ms Brenda Pimentel have given the TCTP their thumbs up.

Mr ‘Akau’ola, Chief Executive Officer for Public Enterprises of Tonga, attended the Regional VIMSAS Workshop in 2012 when he was Tonga’s Deputy Secretary, Ministry of Infrastructure. After completing the course, he said, “I really appreciated that our instructors were knowledgeable and qualified VIMSAS auditors who were able to share extensive first-hand experiences with us throughout the workshop. I was subsequently able to present a recommendation to the Government of Tonga to volunteer for VIMSAS.”

Maritime lawyer Brenda Pimentel also said she benefited from the programme. She took part in a training course on Flag State Implementation in 2000 when she was at the Philippine Maritime Industry Authority.

“The trainers were well prepared, approachable, and communicative. The course allowed me to better appreciate the roles of both Flag and Port States through their personal experiences.”

Four years later, she once again participated in the course but as IMO Regional Co-ordinator for East Asia. She “observed that despite the years, the course content remained immediately relevant and useful to maritime administrations”.

“I attended the Regional Workshop on IMSAS organised by Singapore-IMO Third Country Training Programme in 2016. It was very well prepared, practical and valuable for anyone who wants to prepare their country for IMO Member state audit scheme. I would like to thank the Maritime and Port Authority of Singapore and the Ministry of Foreign Affairs Singapore for being very helpful to us throughout this event,” says Mr Seyitguly Bayseyidov, Head of Legal Department, State Service of maritime and River Transportation of Turkmenistan.

## 02: FEATURE

# SUPPORTING THE TRAINING NEEDS OF IMO

“The IMSAS course conducted through the TCTP program is a very useful course for us. Timor Leste is a new country with marine transportation activities growing rapidly. Around 95% of imports can be done by sea transportation. Timor Leste has been a member of the IMO since 2006, and will be audited by IMO in 2020. Therefore, I look forward to future TCTP opportunities for Timor Leste,” says Mr Lino Barreto, Director of Maritime Transport Division, Ministry of Public Works, Transport and Communication, Timor Leste.

### The Way Forward

As an IMO Council member, Singapore will strive to continue delivering relevant courses to even more IMO member States under the Singapore-IMO TCTP.

“For nearly two decades, the long-term pioneering partnership between IMO and Singapore has remained one of the best examples of the collaboration between IMO and its Member States to secure the financial sustainability and delivery of the Integrated Technical Cooperation Programme (ITCP),” says Mr Juvenal Shiundu, Acting Director, Technical Cooperation Division, IMO.

Underscoring the importance of this commitment, MPA Chief Executive, Mr Andrew Tan, says, “As a member of the international maritime community and an IMO Council member, we will continue to share our expertise and provide technical assistance to improve navigational safety and training standards of our fellow IMO Member States.”

## OUR TRAINERS

### Mr Mark Lim, Deputy Director (Shipping)

TCTP trainers contribute their time, expertise and experience to impart relevant skills and knowledge to the participants. As a trainer, my responsibility is to understand their training needs, and to ensure that these needs are fulfilled properly and effectively. Therefore, we tailor the training programme, mode of instructions, and exercises, to their needs. We also follow up on their progress so that they are equipped to translate what they had learnt into practice.

I firmly believe that a successful TCTP programme will enhance the level of safety, security and environmental protection in international shipping as more countries ratify and implement effectively the requirements of IMO regulations. Given the close interaction we have during the course, the TCTP also enhances working relationships between the trainer and the trainee countries.



## 02: FEATURE

# SUPPORTING THE TRAINING NEEDS OF IMO

### **Capt Sangam, Senior Assistant Director, Shipping Division (Training Standards)**

The TCTP is an important avenue for Singapore to help other countries to build capacity by developing their manpower to administer and meet the requirements of various Conventions, and take steps to enhance navigational safety and environmental protection.

As many developing countries are not familiar with the rationale and requirements of the various conventions, the TCTP training we do is to inform them of the requirements of the Conventions. We also look at the discussions leading to the adoption of clauses in IMO so that they have a clearer understanding of and are able to implement effectively the conventions in their respective countries.

Helping countries to implement various conventions uniformly benefits the shipping industry. In addition, countries that have benefitted from the training have thanked us for our assistance and expressed support for our various efforts in different forums. Participants have also come away with very positive impressions of our tiny nation.

### **Mr Lim Hock Lye, Senior Assistant Director, Shipping Division (Flag State Control)**

To achieve the overarching goals of International Conventions, all parties have to implement them effectively and consistently. This is what TCTP is for – to assist countries that lack the capacity and capability to discharge their responsibilities and obligations under the conventions.

To help achieve this goal, our trainers have to have the necessary qualifications and experience, and master the subject. The wonderful thing about TCTP is that even as we are training the participants, we learn a lot from the programme and from the participants. We can bring this back to help our administration.

In addition to knowledge sharing and application, the TCTP course also provides opportunities for networking and nurturing positive relationships and goodwill with our counterparts, which can then set the stage for future cooperation and collaboration.



## 02: FEATURE

# SUPPORTING THE TRAINING NEEDS OF IMO

### **Mr Chen Kit Jam, Asst Director, Shipping Division (Port State Control)**

It is gratifying being part of the grand TCTP machinery, sharing Singapore's expertise and experience in implementing International Conventions and instruments to developing countries.

In training others, we need to ensure that the specific needs for TCTP are met by taking into account the relevant areas of expertise the participants may lack. As a TCTP trainer, it is important that various innovative modes of instruction are introduced and employed to engage the participants, and ensure that the knowledge imparted can actually be put into practice.

I find that since the TCTP is multi-lateral, the trainers while sharing about the Singapore experience also learn about how other countries implement international conventions and instruments. This means that even as we are training, we are being trained.

### **Capt Gek Hung Khoo, Principal Marine Surveyor, Shipping Division**

In addition to understanding the detailed requirements of a particular Convention, the trainer needs to know how Singapore implements them, and share our experience with the participants. As Singapore is a small country, our administration does not have many tiers. It is therefore easier for us to achieve a common understanding of the Conventions.

We in Singapore are also quite lucky as English is our working language. Thus we have first-hand access to the Conventions, and don't need to translate them to another language. Translations take time and may also create errors. Things can literally get lost in translation.





## WMU FIELD STUDY TRIP

By Angela Chew

### Bringing Lessons to Life

From 27 February to 3 March, 15 students from the World Maritime University (WMU) arrived in Singapore for a field study visit hosted by the MPA Academy (MPAA). Hailing from around the globe, the students of the WMU Masters Programme in Maritime Affairs witnessed first-hand Singapore's port management practices as part of an agreement made between MPAA and WMU. The Memorandum of Understanding seeks to enhance global maritime leadership training and capacity building for the international maritime community, with the field study trip forming one area of cooperation.

*We spoke with WMU Professor Song Dong-Wook from South Korea and two of his students – Mr Mohammad Azizul Moula from Bangladesh and Ms Solace Aseye Nyadroh from Ghana – to find out how their visit to Singapore has helped them towards enhancing port management standards back home.*



# 03: INTERVIEW

## WMU FIELD STUDY TRIP



**Prof Song Dong-Wook**  
Professor and Korean Chair  
Maritime Logistics  
World Maritime University  
Sweden

### **Q: What do you teach at WMU?**

I've taught maritime logistics for the last one and a half years. It's been very interesting as I get to interact with students from all over the world, even from countries I have never heard of.

### **Q: What does the WMU Masters Programme in Maritime Affairs (Port Management specialization) involve?**

This 22-month programme teaches young professionals, most of whom are from developing countries, about international maritime affairs. One of the highlights of this programme is definitely the field study trip.

### **Q: Why is the field study trip so important?**

It brings my lessons to life. While I can show my students pictures of cutting-edge ports in my lectures, nothing beats letting them experience first-hand the latest technology used in Singapore's ports and witness the dedication of the people who run the ports here. This field visit has given them a holistic grounding on a wide spectrum of issues ranging from safety to operational and policy matters. More than that, it has inspired them to adapt and overcome the obstacles in their countries.

### **Q: How should WMU and MPAA further their cooperation in the future?**

Singapore has a strong knowledge of port management, while WMU has a wide global network. There is a good basis for synergy and collaboration, where MPAA can leverage our network to share knowledge with the world, and WMU can tap on Singapore's knowledge base in return.

# 03: INTERVIEW

## WMU FIELD STUDY TRIP



**Ms Solace Aseye Nyadroh**  
Senior Traffic Officer and Planning  
Officer  
Ghana Ports & Harbours Authority  
Ghana



**Mr Mohammad Azizul Moula**  
Deputy Secretary  
Chittagong Port Authority  
Bangladesh

### **Q: What made you pursue a career in the maritime industry?**

**Azizul:** I grew up in a beach town in Bangladesh called Cox's Bazar. When I was in school, I was curious about the many vessels coming in and out of my hometown. Later, I started to learn about these vessels and it was quite interesting for me. After my graduation, I got the opportunity to join the maritime sector with Chittagong Port Authority. It offered me a chance to experience different cultures as well as opened my arena to learn more about port and shipping.

**Solace:** Destiny landed me in the field. My first encounter with the maritime industry was when I signed up as an intern with Ghana Ports and Harbours Authority in 1999. I was fascinated by the diverse possibilities the industry provided for personal and career development in addition to the massive opportunity to interact with people from diverse backgrounds. I saw the port's role in influencing economic activities as an important channel through which I could also contribute to national development. So I decided it was worth giving a try and since then, I have never regretted that decision.

# 03: INTERVIEW

## WMU FIELD STUDY TRIP



### **Q: How long have you been in this industry and what do you do?**

**Solace:** It has been 14 years of permanent employment. As the Planning Officer with the Corporate Planning Department, now known as the Business Development Department, my job entailed critical examination of industry changes, to identify emerging trends to aid Management in strategic decision making and the preparation of corporate periodic reports to the Ministry in charge of the port. Currently, I am a Senior Traffic Officer with the Port Operations Department in charge of a Container Terminal (Transit Terminal) that serves landlocked countries in Africa, such as Burkina Faso, Mali, Niger and others. We handle various tasks ranging from the conditioning and receipt of containers to managing documentation and delivery to these countries and helping to streamline activities to ensure more efficient management of the Transit Terminal.

**Azizul:** For me, it's been five years. I'm now working as "Deputy Secretary (Coordinations)" in my organisation. I handle policy making, make communications with port users and ministries, as well as liaise with overseas ports. I am also a member of different committees for different assignments.

# 03: INTERVIEW

## WMU FIELD STUDY TRIP

### Q: Why did you sign up for the WMU Masters Programme in Port Management?

**Azizul:** At my workplace, I realised some colleagues were more knowledgeable, with better problem-solving and decision-making skills than others. I learned that they were WMU graduates. So I decided to sign up to upgrade myself.

**Solace:** After having carefully examined the WMU course content, I was convinced that the programme would enhance my capacity and expertise in handling today's port management issues. In addition, the international environment in which the programme is delivered, such as where experiences from different regions are shared and the practical orientation, equips the WMU graduate with a level of competence that is second to none. Our presence here in Singapore is classic proof.



### Q: How have you benefited from the Programme?

**Solace:** WMU has a pool of seasoned lecturers with a very wide range of industry experiences and combines its courses with practical (field studies) knowledge; again, our presence here in Singapore is classic proof. In addition, the programme brings together people from diverse academic backgrounds and expertise who hail from different parts of the world and we are able to share experiences and ideas as well as meet and learn from great industry players on how ports are managed differently by other countries, especially the developed countries.

**Azizul:** WMU has a multi-cultural setting with people from different countries all in one place. This allows me to learn from their different experiences. Here, we are learning not only from our professors but also from our fellow students. WMU's field study visits give us practical knowledge so we do not just learn the theoretical aspect, but we also get to see it in real life too.

# 03: INTERVIEW

## WMU FIELD STUDY TRIP

### Q: Can you share your experiences during your field study visit to Singapore?

**Solace:** It was very insightful, and a great exposure to see for myself what a transshipment hub port is and being at no mere a place than at the Maritime and Port Authority of Singapore, as Ghana Ports and Harbours Authority is also aiming at becoming the hub in the West African sub-region. This was my first time seeing the amazing fleet of state-of-the-art equipment of Singapore's port. We were at the simulation centres for cranes and vessels. It was my first experience using the crane simulator to lift containers myself. I was also impressed at how automation has helped to make Singapore's port more efficient with minimal human intervention and a high level of investment in sophisticated equipment and human resource to boost port efficiency.

**Azizul:** It was interesting to see Singapore's efficient gate management system, which needs only 25 seconds to clear container trucks. I was impressed that Singapore was able to maximise the use of its limited land and manpower even as it expanded its ports. We also learnt about Singapore's commitment in ensuring safe navigation by taking efforts to reduce piracy and creating a secure environment for shipping.



### Q: How can you apply what you learnt from the field study visit to your work?

**Solace:** Automation is key to efficiency even though it is expensive. To reduce dwell time of trucks at the gates and in the ports of Ghana as well as to reduce cargo clearance time, I would like to carry along the message of automation. When I return to Ghana, I would like to implement a simple automation pilot project in my terminal in Ghana to increase efficiency by reducing the time for cargo clearance and then impress upon my management the importance of automation in improving port efficiency.

**Azizul:** Singapore focuses on training, which helps to reduce errors and lower costs in the long run. Beyond this, staff welfare benefits and incentives are used to motivate staff, which in turn helps in staff retention. The importance of training is something I can apply to my organisation. Another positive takeaway is the seamless cooperation between Singapore and its neighbouring countries such as Malaysia and Indonesia to ensure the safety of the vessels as they navigate the sea lanes of these nations.



## 04: SEMINAR

# TACKLING CONTAINER YARD LAYOUT PLANNING AND PORT AUTOMATION WITH MR TAN PUAY HIN

By Angela Chew

Singapore is the world's busiest transshipment hub port, entrusted with almost one-seventh of the world's transshipment throughput. With increasing consolidation and a growing number of mega-alliances arriving at our port, it remains crucial that we equip our terminals with advanced port technologies.

On 31 May and 28 July, we heard from Mr Tan Puay Hin, Senior Advisor for Group Port Design & Connectivity of PSA International Pte Ltd and Senior Adjunct Fellow of the MPA Academy, as he shared from his experience on the key considerations in container terminal planning from the perspective of a terminal operator and the benefits of port automation in Singapore. We bring you the highlights of his talks.



# 04: SEMINAR

## TACKLING CONTAINER YARD LAYOUT PLANNING AND PORT AUTOMATION WITH MR TAN PUAY HIN



### Container Yard Layout Planning

As the saying goes, time is money. For a terminal operator, ensuring the quickest turnaround possible is vital to port operations. The quay cycle time, the yard cycle time and the marine and terminal interface are of prime importance, and a well-planned container yard will go a long way to ensuring efficiency, productivity, reliability and safety for all parties.

From the start, it is critical to establish the nature of the port – whether it will be used for transshipment or as a gateway supporting import and export – as this will affect its layout and design. Next comes the choice of yard block configuration, with linear stretch being a cheaper option while the finger layout offers a shorter connecting distance and hence greater efficiency. Automation is another consideration. While it offers higher productivity, flexibility, consistency and safety, the investment costs are significantly higher and it is necessary to ensure a perfect system as lost containers are not easily found given the enormous sizes of such yards.

An efficient container yard ensures good circulation for smooth traffic flow, thus it is important to eliminate choke points. Containers need to be segregated and stacked without requiring shuffling or rehandling. The yard stack must also be conducive for operations with minimal travelling time and



# 04: SEMINAR

## TACKLING CONTAINER YARD LAYOUT PLANNING AND PORT AUTOMATION WITH MR TAN PUAY HIN



zero waiting time at the yard. Another critical point is that while stacking, weight distribution and stack height need to be considered. In optimising terminal capacity, berth vacant time and container dwell time should be kept as short as possible to optimise terminal capacity. It is also vital to note that the freight size and box mix will impact yard cycle time.

In recent years, the advent of mega ships has posed a challenge for container yards as they have greater demands and more sophisticated requirements. These include longer quay lengths, mega quay cranes, deeper marine channels and berths as well as the need for greater equipment reliability, among others. A good container yard will need to accommodate these large vessels while ensuring speed and efficiency are not compromised.

### Port Automation in Singapore

From Rotterdam to Hamburg, Qingdao to Nagoya, a handful of ports around the world have become automated. Their reasons include high labour costs, job mismatch, higher capital expenditure offset by operating expenses savings and the need for tripartite corporation. But these are not the only reasons why ports would want to automate. Others include better productivity, safety, security and performance as well as environmental factors and customer expectations. Together, these determine the extent to automate and shape the design considerations.

In Singapore, our drive for automation comes on the back of manpower and land constraints as well as the need for better cost competitiveness. However, there are a few areas which we need to consider.

An effective container yard is about ensuring strong connectivity and flow, and any automation must support this. Singapore has established unrivalled connectivity to 545 ports in 127 countries. Although this is beneficial for competitiveness, it is challenging for port operations and any automated system must be able to handle this level of complexity.

# 04: SEMINAR

## TACKLING CONTAINER YARD LAYOUT PLANNING AND PORT AUTOMATION WITH MR TAN PUAY HIN



As a small country, we need to ensure efficient land use. However, automated terminals require more land than traditional ones. Also, for safety reasons, automated ports need clear segregation of the manned and automated areas. This is one challenge to overcome as the upcoming Tuas terminal adopts the finger layout – while good for connectivity, this design makes it trickier to ensure clear segregation.

An automated port will provide better reliability and efficiency with minimal dependency on human operators. However, it is important to note that automation does not solve bad processes. If the original workflow is ineffective, transferring this into the system will only exacerbate the problem. An automated port will also add another area of concern in risk management as it would be unwise to rely on just one supplier, since any investment into our ports will need to function for the very long term.

While there are several other considerations and challenges to overcome in Singapore's port automation, it is critical to weigh the costs and sustainability of adopting technology for automation at our ports to ensure the best solution for the future.





## 05: HIGHLIGHTS

### A LOOK BACK AT 2017

**01** Editor's Note  
Keeping our eyes on the horizon

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Training maritime leaders

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With Mr Kap Sekimiza

Launch of the inaugural issue of MPA Academy's e-Newsletter 'HORIZON'

2<sup>nd</sup> Advanced Maritime Leaders' Programme



# 05: HIGHLIGHTS

## A LOOK BACK AT 2017



**3<sup>rd</sup> Alumni Gathering at the Singapore Reception for the MSC 98<sup>th</sup> Session at IMO London**



**World Maritime University Visit**

**10<sup>th</sup> Maritime Safety Management Course by Japan Coast Guard and MPA**



**4<sup>th</sup> Port Management Programme**

**7<sup>th</sup> Maritime Public Leaders' Programme**



# 05: HIGHLIGHTS

## A LOOK BACK AT 2017



Global Maritime Energy Efficiency Partnerships Workshop in Singapore under the Singapore-IMO Third Country Training Programme



Regional train-the-trainer course for simulator trainers and ECDIS instructors for the Pacific Islands in Fiji under the Singapore-IMO Third Country Training Programme

Regional workshop on assessing, authorising and monitoring recognised organisations (RO) Code in United Arab Emirates under the Singapore-IMO Third Country Training Programme



MPA Academy Insight Series- 'Cyber Threats and Challenges Facing Singapore' by Mr Tan Tong Hai, Chief Executive Officer of Starhub



MPA Academy Insight Series- 'The Rapid Rise of e-Commerce and the Opportunities and Challenges of Shipping' by Mr Pierre Poignant, Lazada's Group Chief Operating Officer



# 05: HIGHLIGHTS

## A LOOK BACK AT 2017



Lectures on container terminal planning and port automation by Mr Tan Puay Hin, Senior Advisor for Group Port Design & Connectivity of PSA International Pte Ltd and Senior Adjunct Fellow of the MPA Academy



12<sup>th</sup> Executive Development and Growth Exchange by the Centre for Liveable Cities

8<sup>th</sup> Leaders in Urban Governance Programme by the Centre for Liveable Cities



IMO Member State Audit Scheme Preparatory course for MPA staff

Infocomm Security Awareness Course for MPA staff



# 05: HIGHLIGHTS

## A LOOK BACK AT 2017



Case Study Workshop for MPA staff



Vessel Traffic Service Operator/ On-Job-Training Instructors course for vessel traffic officers/supervisors

Basic Occupational Safety and Security Training course for port inspectors, hydrographic surveyors and port chemists



First aid refresher course for marine surveyors

NAPA Emergency Response Tool course for senior marine surveyors



# 05: HIGHLIGHTS

## A LOOK BACK AT 2017



IMO Level 2 Oil Spill Clearance course for port inspectors and marine officers



Basic Seamanship course for hydrographers and hydrographic surveyors

Basic Hydrography Survey Cat 'C' for hydrographers and hydrographic surveyors



Foundation Course for Cartographers (Cat 'C')



# 05: HIGHLIGHTS

## A LOOK BACK AT 2017

Remotely Operated Vehicle training course for hydrographic surveyors



Documenting institutional knowledge through case studies and oral history interviews





## 06: PEOPLE

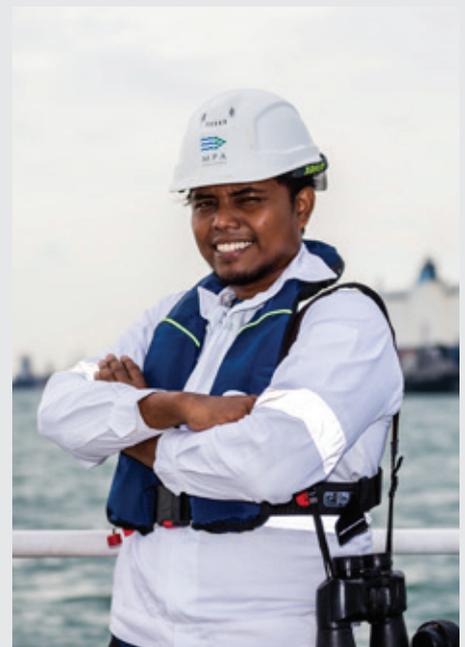
### SAFEGUARDING OUR SEAS

By Chris Chua

The Maritime and Port Authority of Singapore (MPA) plays an important role in ensuring MPA staff are equipped with the skills needed to carry out their roles in safeguarding Singapore's waters. As the training arm of the MPA, an important part of the MPA Academy's mission is to enhance the specialist skills and knowledge of MPA officers. The Academy works with the MPA line divisions to organise several technical training courses.

These include the Basic Occupational Safety and Security Training (BOSST) facilitated by the MPA Academy and conducted by Singapore Polytechnic, and the International Maritime Organisation Level 2 Oil Spill Clearance Course by Oil Spill Response Limited (OSRL), among others.

*We spoke with Ishak bin Mohd Hassan, a Senior Port Inspector and graduate of these courses, to get his take on the training programmes and his experience in ensuring everything is shipshape at sea.*



# 06: PEOPLE

## SAFEGUARDING OUR SEAS



### **Q: Why did you pursue a career at MPA?**

I was interested in the job scope. During my National Service (NS), I was in the Navy, so this career is like a natural progression. I joined after NS and have been with MPA for almost five years.

### **Q: What do you do as a Port Inspector?**

As a Port Inspector in the Marine Environment & Safety Department, my role is to enforce the MPA Port Regulations and Act. At the same time, we ensure there is no hazardous discharge by vessels and port users. We also perform random spot checks on harbour and pleasure craft within Singapore's port waters such as ensuring they hold valid licences and certificates for their vessels and crew, as well as inspecting the life-saving and fire-fighting equipment they carry on board.

Service excellence is important in my job, because as frontline staff we have to reflect a professional image of MPA as the regulatory authority. That is why we need to be firm yet professional in enforcing the rules and regulations within Singapore's port waters.

### **Q: What does it take to be a good Port Inspector?**

You need to have the right personality for the job, one that is firm yet tactful at the same time. Also, you cannot get seasick. They will take you out to sea during the selection process to see how comfortable you are. I had no problem with this, as I have never gotten seasick in my life, not even in stormy weather.

### **Q: How is the environment like at work?**

It's a friendly environment and I have good rapport with my colleagues, especially on the vessel. When we are out at sea, we depend on each other for our safety and help one another in times of need.

# 06: PEOPLE

## SAFEGUARDING OUR SEAS



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

Mostly it is just bad weather. Heavy rain and strong winds can make it difficult for us to board the vessels. When it's hazy, the poor visibility will slow our work. But regardless, we will still get the job done eventually.

Another challenge is language barriers. Sometimes I have problems communicating with the vessel crew from China, especially if their accent is very thick and they only know a few words of English. When this happens, I will radio back to get someone to talk to them.

### **Q: What is your most interesting experience so far?**

Dealing with oil spills. When that happens, we have to monitor a lot of things, ranging from cordoning off the area, to setting up oil booms and ensuring the oil does not spread to the protected areas. If the oil spreads to the coast, we will need to inform agencies like the National Environment Agency, National Parks Board, PUB, Singapore's National Water Agency and the Sentosa Development Corporation. I was involved in handling a major oil spill in January 2014 that affected the Southern Islands and even spread to East Coast Park.

Another interesting aspect is handling uncooperative ship captains. Sometimes, when I issue an infringement, they can get upset and aggressive. In such cases, I will just stand firm and focus on being professional. Thankfully, nobody has tried to fight with me so far!

# 06: PEOPLE

## SAFEGUARDING OUR SEAS



### **Q: What were some highlights of your courses?**

Overall, the courses are good refreshers. I learnt something unique about oil at the OSRL course. You need to use special chemicals and get the oil spill clean-up crew to do it. If we use a conventional dispersant on oil that has been exposed to the weather for more than 24 hours, it will not break it down. This means that after 24 hours, we cannot do much about the oil spill other than cleaning it up through containment by booming, cleaning by skimming and scooping from the sea or shoreline.

At the BOSST course, cardiopulmonary resuscitation (CPR) was one of the modules. I believe this is an important skill in case there is a medical emergency at sea.

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

The training definitely better prepares me for any incidents in my job. For example, the OSRL course taught us how to measure the size of the oil spill. This gives me a clearer picture of how to estimate the size of the spillage and optimise resources during such situations.

### **Q: Any future aspirations?**

I'm quite happy in my current job, and will continue here as long as I'm required. No two days are the same, so I never get bored. I get to meet different people from diverse nationalities, and handle a variety of situations and weather conditions. Every day I get to look at the scenery out here. It frees your mind.



## CONVERSATIONS WITH MPA ACADEMY'S ALUMNI

*By Rahita Elias*

The MPA Academy runs three flagship programmes – Advanced Maritime Leaders' Programme (AMLPL), Maritime Public Leaders' Programme and Port Management Programme. Today, we have more than 200 alumni members from Asia, Africa, Europe, the Middle East, the Americas, the Caribbean and Oceania.

In this article, we catch up with two alumni who have since moved up the ranks. Both attended the inaugural AMLPL in April 2015. The programme focuses on leadership development, and is designed for senior maritime officers heading maritime and port administrations in their respective countries. A second edition of the AMLPL was held in April 2017.



# 07: PEOPLE

## CONVERSATIONS WITH MPA ACADEMY'S ALUMNI



**Ms Nancy W. Karigithu**  
Principal Secretary  
State Department for  
Shipping & Maritime Affairs  
Ministry of Transport,  
Infrastructure, Housing  
& Urban Development  
Kenya

*As a little girl, she made and launched paper boats onto puddles of water left by the monsoons that sweep across Kenya periodically. This childhood play sparked a curiosity to see real boats in action and a fascination with the sea, which ultimately led her to a maritime career.*

My earliest memories of my childhood in the Mwea Irrigation Scheme in Central Kenya are of the seasonal monsoons. Heavy rainfall would quench the parched earth and, thereafter, form huge puddles of water. At a very young age I was taught to make paper boats which I loved to float on these puddles. My fascination grew into curiosity to see real boats in action.

This fascination blossomed further into a love for the oceans, which to me were simply bigger water puddles. When the opportunity arose, I travelled 700 km from home to a school in Kenya's coastal city of Mombasa.

After completing University, I got a job on the coast where I learnt about ship arrests. I found the concept so interesting that I wanted to know more, and decided to seek employment with the Port Authority. The rest, as they say, is history.

In 2015, when I was Director-General, Kenya Maritime Authority, I was privileged to attend the inaugural Advanced Maritime Leaders Programme (AMLPP). This very high quality course, in terms of content and structure, blends real-life issues that confront the maritime practitioner daily with experiential accounts from renowned international practitioners. This very impactful course was delivered both ably, and in a thought-provoking manner. It was a real eye opener for me on so many levels.

I got to meet and interact with fellow senior maritime professionals from Africa, the Middle East, the Pacific and the Caribbean. From our interaction, it became clear to me that while distance divided us, we shared the same issues in our respective workplaces.

# 07: PEOPLE

## CONVERSATIONS WITH MPA ACADEMY'S ALUMNI

It was a humbling experience to learn at the feet of industry captains – gurus who have invested their entire lives in the industry. Textbooks are no substitute for their wealth of invaluable knowledge and experience.

From the course, three things made a lasting impression on me. I learnt that as a leader, my role is to empower each person under me, and get the best out of them. This includes understanding their strengths and weaknesses, even allowing them to make mistakes along the journey to perfection.

I also learnt the importance of acknowledging that leaders do not have all the answers. Instead, we have to combine and harness the power of each team member. Together, we become far more powerful. We are often tempted to engage external consultants for answers, and try to implement their recommendations instead of relying on our tried-and-tested employees. When we ask our own people before going to outsiders, we get more value for money as well as lasting solutions.

The third lesson was that power is not about control. Instead, power is strength, and we need to give that strength to others. A leader does not force others to make her stronger, she is someone who is willing to give her strength to others that they may have the conviction to stand on their own. Leadership is about demonstrating how excellence can be attained and, most importantly, benefit others.

I am proud to be putting into practice these lessons in my workplace, where I have been elevated to my current position since graduating from AMLP.

The programme is certainly helpful in developing one's leadership skills and potential as it enables participants to tap into the invaluable overseas experience of experts. It also provides the opportunity for interaction with people from a variety of cultures. Seeing as the maritime industry is an international business, such exposure to experiential, cultural diversity and depth generates benefits all round. Indeed, every opportunity to inject new thinking into the workplace should be embraced and encouraged.

All in all, I would absolutely and unreservedly recommend this course. The training provides a platform to move from good to great, to expand the mind, and to increase possibilities. It also makes for development of a true leadership mindset.



# 07: PEOPLE

## CONVERSATIONS WITH MPA ACADEMY'S ALUMNI



### **Sobantu Tilayi**

Acting Chief Executive Officer  
Chief Operations Officer  
South African Maritime  
Safety Authority

*His entry into the maritime industry was something of an accident but this South African mechanical engineer has carved a distinguished career for himself. Today, he is the man behind the steering wheel of the country's government agency championing the maritime industry and ensuring maritime safety, health and environmental protection.*

I was a big accident, at least in terms of my maritime career! As a Mechanical Engineer, I was asked to manage the technical operations of a harbour in South Africa 20 years ago.

At that time, our country had just freed itself from the shackles of apartheid. So this was when the newly independent South Africa needed the skills to run its state institutions. This was also at a time when the State Company managing the ports was being divided to Ports Authority, and Terminal Operations.

When I joined, I became involved in defining the new business model from a Marine Services point of view, which covered harbour crafts, mooring services, ship repair infrastructure, and so on.

Post the restructuring, I managed Marine Operations of the National Ports Authority nationally, which included seven commercial ports. My next step was joining the South African Maritime Safety Authority (SAMSA) as an Executive for Shipping Services, before progressing to Chief Operations Officer (COO) in 2012. Then in May 2016, I was also appointed Acting Chief Executive of SAMSA.

In the course of my maritime career, one of the best learning opportunities I have had is the Advanced Maritime Leaders' Programme, which I was nominated to attend when South Africa was invited to participate in the inaugural run in 2015. I was COO of SAMSA at that time.

# 07: PEOPLE

## CONVERSATIONS WITH MPA ACADEMY'S ALUMNI

The programme brought together several of my colleagues from around the world. While we each work under quite varied conditions and circumstances, we all share a common goal. We all aim to position our individual maritime sectors to comply with international instruments while creating advantages for our respective countries' economies. I found that the programme's lecturers, presenters and case studies were carefully chosen to cover comprehensively all aspects of the sector.

It is also noteworthy that the programme was held in conjunction with the Singapore Maritime Week, which featured various maritime conferences, dialogues, exhibitions and social events. This really shows a maritime sector that is completely integrated with both government and industry players.

Seeing this, it occurred to me that, as regulators, we needed to be much closer to the industry. It also highlighted to me that we needed to look at the future in the same integrated way so as to derive the full advantage for our countries.

Another takeaway from the AMLP came from the fact that the lecturers were drawn from all over the world, underscoring the need to scout for talent and expertise in order to achieve adequate capacity building.

AMLP can also help in building one's maritime career. From the case studies presented in the classroom, we learnt principles which provided me with a good model for management. Beyond the direct benefits from the classroom teaching, AMLP also allows one to build invaluable networks across the world.

I think that the topics will evolve over time in line with the changes in the industry. One suggestion I have for future programmes is that a survey be sent to the participants. The poll would present the respondents with a suite of topics so they can rate which areas they consider to be the most important. Based on the findings, these essential topics can then be included in future programmes.

In all, AMLP is an excellent programme, and I would certainly recommend it to my colleagues.



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## 08: CASE STUDY

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# EVOIKOS

*By Chris Chua*

### Lessons from Singapore's Largest Oil Spill

To document institutional knowledge, MPA Academy is working on case studies and oral history interviews with key maritime pioneers and personalities. You can read more about Singapore's largest oil spill in the Evoikos Case Study.

The worst oil spill in Singapore's history took place on 15 October 1997 when oil tanker Evoikos collided with another tanker, Orapin Global, about 5km south of Pulau Sebarok in Singapore's waters. The severe damage to Evoikos in the collision resulted in about 28,500 tonnes of spilled oil. While the incident affected port operations and the environment, it presented an opportunity for MPA to test its crisis response plans.

### Immediate Response to the Crisis

MPA declared a "Code Red" status within four hours of the tankers' crash. Thereafter, MPA activated its crisis response contingency plan and convened the Emergency Operations Committee (EOC). Headed by MPA's Director-General and comprising key appointment holders from various agencies, the EOC maintained oversight of the oil spill situation, coordinated the response efforts and ensured the timely and proper allocation of resources for the clean-up operations.

# 08: CASE STUDY

## EVOIKOS

### **Timely and Effective Communication to Engage Stakeholders**

The EOC engaged key stakeholders through twice-daily meetings to keep them updated about the ground developments. Furthermore, to ensure that our neighbouring countries Malaysia and Indonesia were prepared for the possibility of the oil spill reaching their shores, we kept them apprised of the situation through regular updates.

### **Inter-Agency Coordination in Clean-Up Operations**

MPA worked with various partner organisations to pool together manpower, equipment and resources to clean up the mammoth oil spill. On top of government agencies such as the Ministry of Defence and the National Environment Agency, MPA also reached out to oil companies like Shell and Caltex as well as engineering firms such as East Asian Spill Response Limited and Semco for their assistance in the salvage operations.

Foreign assistance was sought from Japan for the oil containment efforts. Japan provided six personnel and equipment to aid in the clean-up efforts.

MPA worked closely with the Immigration and Checkpoints Authority of Singapore (ICA) to facilitate the deployment of key personnel and equipment into Singapore.

### **An Appropriate Recovery Strategy**

Experts from the International Tanker Owners Pollution Federation (ITOPF) recommended that Singapore allow the oil to be washed up onto the beaches and clean up the coastline subsequently. However, MPA decided against this approach after evaluating a variety of environmental and economic considerations, the consequences of letting the oil drift offshore and the challenges of beach cleaning. Instead, MPA opted to clean up the oil while it was still at sea.

As part of this strategy, skimmers and oil booms were used to contain the spread of the oil spill and remove it from the sea during round-the-clock cleaning operations. Meanwhile, dispersants were used to treat the marine fuel that escaped from the oil booms. With the help of an oil prediction model, MPA was able to forecast the movement of the oil. This facilitated the appropriate deployment of resources during the clean-up efforts.

The clean-up efforts moved to land as the oil reached the shoreline, and involved clearing oil that had collected on mangrove swamps, beaches and rocks. To mitigate the environmental damage from the oil spill, the National Parks Board (NParks) shifted mangroves from the Southern Islands to Pulau Ubin while MPA employed suitable chemicals and dispersants to clean the mangroves in an eco-friendly manner.

Collectively, these sustainable measures helped to limit disruption and damage to the ecosystem of corals, mangroves and marine life.

# 08: CASE STUDY

## EVOIKOS

### The Aftermath

The investigations concluded that the collision was an accident, caused by errors of judgement by both the Masters of Evoikos and Orapin Global. Both Masters failed to act on the Vessel Traffic Information System's (VTIS) advice to slow down. In particular, the Master of Evoikos had wrongly assumed that the oncoming Orapin Global would give way, leading to his late response and eventual collision. Both Masters were charged for contravening the Convention on the International Regulations for Preventing Collisions at Sea (COLREGS) and the Merchant Shipping Act (MSA).

Even though foreign experts estimated that the clean-up costs would surpass \$100 million and expected the port to close, this did not materialise. This resulted primarily from the choice to contain and clean up the oil at sea, rather than clean the oil after it had washed up onto the coastline.

MPA's approach lowered the clean-up cost to only \$13 million. The strategy also minimised the adverse impact on sea lanes. With the exception of one or two affected terminals, port facilities remained operational and shipping traffic in the Straits continued to run at close to normal conditions, thereby limiting the economic consequences of this disaster.

Still, the incident presented several learning points. One was the importance of having quality imaging equipment that can operate well even in adverse weather conditions. MPA's satellite pictures were of poor image resolution due to hazy conditions and were not able to adequately capture the extent of the oil spill. Instead, MPA had to rely on aerial reconnaissance conducted by the Republic of Singapore Air Force (RSAF) helicopters to map out the geographical scope of the spill.

Another observation was that Singapore regulations need to ensure that oil companies retain a ready stockpile of oil spill response equipment and trained personnel to enable flexibility and speed in responding to future maritime emergencies. The shortage of manpower during the clean-up exercise was an operational barrier. For example, there was a lack of personnel to operate the response craft.

MPA continually seeks to improve its crisis management capability. Since the incident, it has tapped on the lessons gleaned, enhanced strengths and bridged gaps to ensure a better response as and when the need arises.

# 09: UPCOMING EVENTS

## BY INVITATION

### 2<sup>nd</sup> Singapore Maritime Administrators' Forum

Venue: MPA Academy, Singapore

Date: April 2018

Participants: Students of WMU Masters Programme in Maritime Affairs

### 11<sup>th</sup> Maritime Safety Management Course conducted by MPA and Japan Coast Guard

Venue: MPA Academy, Singapore

Date: Q3 2018

Participants: Maritime officials

### 8<sup>th</sup> Maritime Public Leaders' Programme

Venue: MPA Academy, Singapore

Date: Q4 2018

Participants: Senior maritime officials

### World Maritime University Study Visit

Venue: MPA Academy, Singapore

Date: 26 February - 2 March 2018

Participants: Students of WMU Masters Programme in Maritime Affairs

### 4<sup>th</sup> MPA Academy Alumni Gathering

Venue: Singapore

Date: April 2018

Participants: MPA Academy alumni members

### 5<sup>th</sup> Port Management Programme

Venue: MPA Academy, Singapore

Date: Q3 2018

Participants: Port masters, harbour masters, middle management personnel

## FOR MPA STAFF

### MARINE OFFICERS AND SURVEYORS

### IMSAS/III Code/RO Code – Auditor/Lead Auditor Course

Date: Q2 2018

### International Maritime Dangerous Goods Course

Date: Q2 2018

### International Ship and Port Facility Security Code – Auditor Course

Date: Q3 2018

### IMO Member State Audit Scheme Preparation Course for MPA Officers

Date: Q1 2018

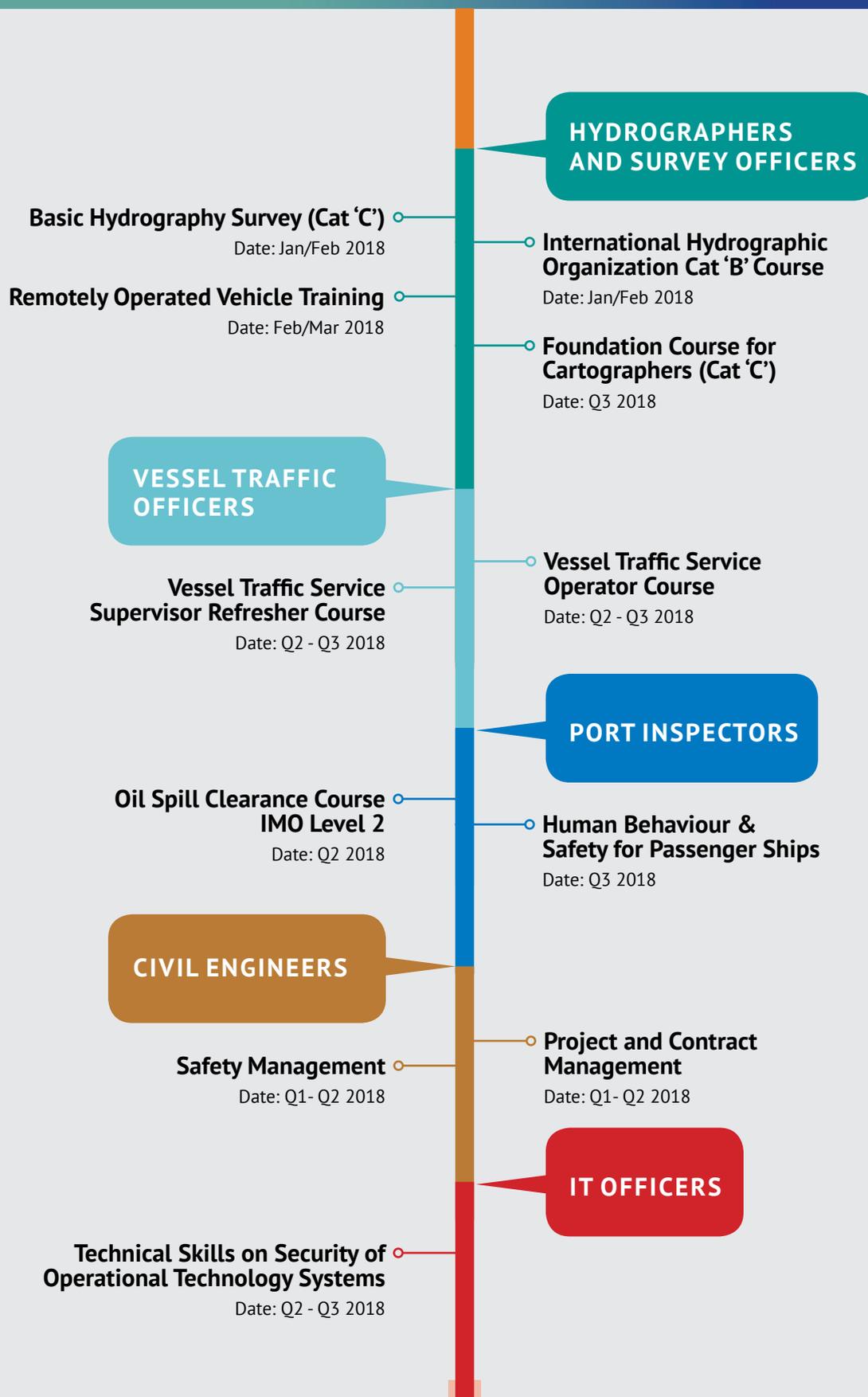
### Search and Rescue Course

Date: Q2 2018

### Risk Management and Incident Investigation Course

Date: Q3 2018

# 09: UPCOMING EVENTS



## 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

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### DESIGN

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