

BEST SINGLE
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TABBBIE AWARDS
2012



▶ SMW draws global maritime community
▶ cleaning up our waters ▶ port masters share
valuable insights

SINGAPORE
maritimeweek[®]
2013



PEOPLE
IDEAS
OPPORTUNITIES

7-12 APRIL 2013

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CONTENTS

No.23

PAGE

04

SHIP'S LOG
NEWS AND EVENTS
AT MPA

PAGE

06

PORT &
STARBOARD
CLEARING OUR WATERWAYS

PAGE

08

FEATURE
GLOBAL WAVE HITS
LOCAL SHORES



PAGE

16

COMPANY SPOTLIGHT
PIONEERING SPIRIT



PAGE

20

PERSONALITY
JANG HWANG-HO

PAGE

22

PERSONALITY
JAMES HUGHES-
HALLETT

PAGE

24

TECHNOLOGY
SUSTAINABLE SOLUTIONS

PAGE

30

COMMUNITY TALK
HOLDING FORT



PAGE

34

MARITIME
CAREERS
ENGINEERING DESIGN

PAGE

36

THE BACK PAGE
GOD OF THE SEA

publisher



MPA
SINGAPORE

Maritime and
Port Authority of
Singapore

460 Alexandra Road,
#19-00, PSA Building,
Singapore 119963
Tel: +65 6375 1600,
Fax: +65 6275 9247
www.mpa.gov.sg

executive editor

Lam Wee Shann

advisory committee

Lam Yi Young
Tan Beng Tee
M Segar Abdullah
Khong Shen Ping
Toh Ah Cheong
Cheong Keng Soon
Tan Cheng Peng
Leanna Lim
Parry Oei
Wendy Loo
Angela Png
Alan Lim

senior managing editor

Cynthia Chin

managing editor

Gary Low

assistant managing editor

Jessica See

publishing agent

SPH magazines

Caroline Ngui
group editor-in-chief

Joanna Lee-Miller
group editor

editorial & creative
Low Ching Ling
senior editor

Serene Foo
editor

Lediati Tan
contributing editor

Alex Goh
creative director

Stephanie Teo
art director

Dennis Pua
managing director

Christopher Chan
general manager

sales & client
management

Kaz Lim
associate account
director

Bernard Chen
bernchen@sph.com.sg
account manager

Christine Chionh
assistant manager
business development
& client management

publishing services

Nurin Farah Adam
coordinator

Singapore Nautilus is published quarterly by SPH Magazines Pte Ltd (Registration No: 196900476M) for Maritime and Port Authority of Singapore (MPA). Copyright of the materials contained in this magazine belongs to MPA. Views expressed may not necessarily be those of MPA or SPH Magazines Pte Ltd. All rights reserved. Enquiries should be directed to the Editor, Maritime and Port Authority of Singapore, 460 Alexandra Road, #19-00, PSA Building, Singapore 119963. Tel: +65 6375 1600, Fax: +65 6275 9247, E-mail: SN_feedback@mpa.gov.sg. All information is correct at time of printing. Printed in Singapore by KHL Printing Co. Pte Ltd (Registration No: 197801823M). ISSN 2010-1120 For advertising enquiries, please e-mail jrani@sph.com.sg

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Global gathering

People, Ideas, Opportunities. Singapore Maritime Week (SMW) is on to its eighth run, and MPA still holds the mantra strong. SMW 2013 continues to grow and attract a wide range of maritime conferences, dialogues and activities, which are aimed at both the maritime community and general public.

This year, the Singapore Maritime Lecture – a key highlight of SMW – will be delivered by James Hughes-Hallett, Chairman of John Swire & Sons Ltd. Many prominent international and local maritime industry leaders will gather at Shangri-La Hotel on April 10 for this event. We are also privileged to interview him for our Personality section in this issue.

To live up to its promise of inclusivity, SMW 2013 is holding an exhibition at Plaza Singapura from April 1 to 7, with the theme A Cross Section of Maritime Singapore. It will feature selected entries from the preceding T-shirt design contest that called for designers' impressions of Maritime Singapore.

The Amazing Maritime Challenge

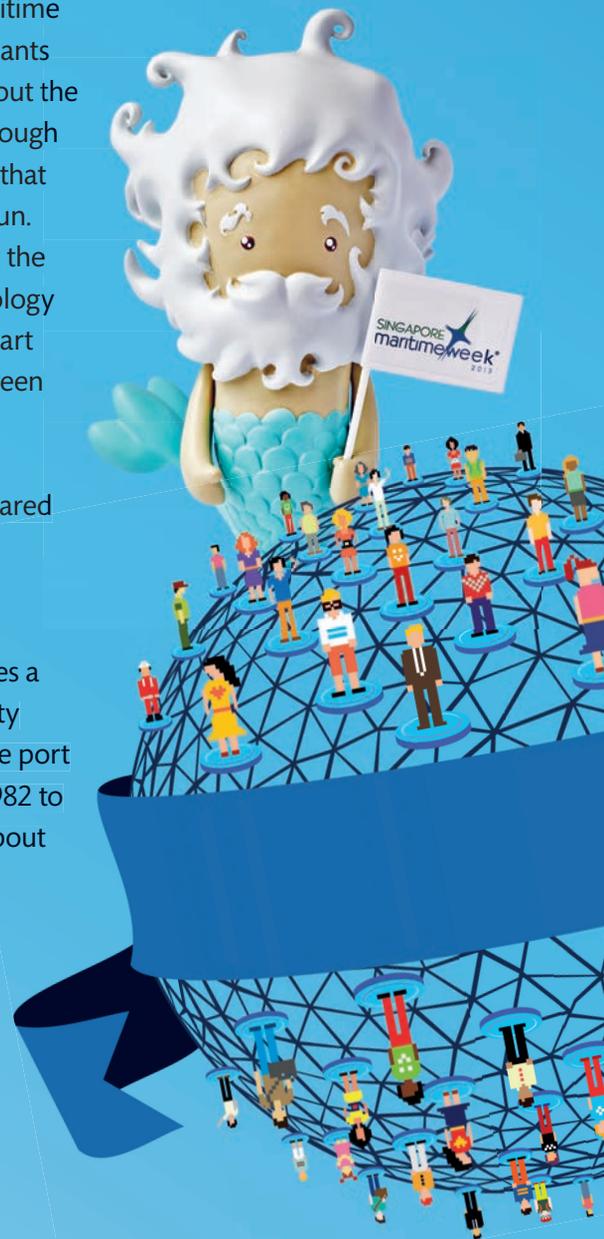
of 2012, which received over 900 participants, will be reprised in the form of the Amazing Maritime Adventure on April 7. Participants will be able to learn more about the diverse maritime industry through games, quizzes and activities that strive to be informative and fun.

In Technology, read about the progress of the Green Technology Programme. Announced as part of the Maritime Singapore Green Initiative in SMW 2011, the programme has since started many meaningful projects geared towards cleaner and greener shipping technologies for the maritime industry.

Finally, find out what makes a port master tick in Community Talk, where we speak to all the port masters of Singapore since 1982 to hear what they have to say about governing the seas.

Wee Shann

executive editor



Port State Control Meeting



Representatives of the Port State Control Committee, the governing body under the Memorandum of Understanding on Port State Control in the Asia-Pacific Region (Tokyo MOU), met in Singapore for the 23rd session in January this year.

MPA Sponsorship Award Ceremony



Captain M Segar (seated, middle) with award recipients at the MPA Sponsorship Award Ceremony in January this year.

Visit by Hong Kong Polytechnic University



Dr Jimmy Ng and 30 students from The Hong Kong Polytechnic University's Department of Logistics and Maritime Studies visited MPA's Singapore Maritime Gallery.

Visit by Fajar Secondary School



In January 2013, MPA organised a learning journey for Fajar Secondary School students to its Port Operations Control Centre at PSA Vista.

Visit by Indian Naval War College



MPA hosted the Indian Naval War College, headed by Cmde Srikant Bandopant Kesnur (top right), when it visited the Port Operations Control Centre at PSA Vista.

CLEARING OUR WATERWAYS

COLLECTING WASTE FROM SHIPS AND RETRIEVING FLOTSAM ARE ESSENTIAL OPERATIONS THAT KEEP SINGAPORE'S PORT WATERS CLEAN. JAMIE EE EXPLAINS THE PROCESS OF MARINE LITTER DISPOSAL.



► Garbage collection and flotsam retrieval may not sound like glamorous tasks, but these key operations help keep Singapore's port waters clean.

Under regulations by the Maritime and Port Authority of Singapore (MPA), ships that call at Singapore are not allowed to dump oil, sewage or garbage in its waters.

As a signatory of the International Convention for the Prevention of Pollution from Ships (MARPOL), Singapore needs to provide reception facilities at its ports for vessels to dispose of their garbage.

Cheong Meng Tak, MPA's Manager of Resource Management, says the primary goal of keeping its port debris free is to ensure a clean marine environment.

Marine waste management

To manage marine waste, MPA provides a garbage-collection and flotsam-retrieval service through private operator Tian San Shipping. Every day, it operates a fleet of nine garbage-collection and flotsam-retrieval craft to collect waste from ships, and to search for floating garbage that could potentially hinder the navigation of vessels. An average of 500 tonnes of waste is collected within Singapore's port waters each month.

Cheong says: "We are a busy port, so our contractor works very hard to collect the garbage. As part of the contract, it has to serve at least 90 per cent of vessels at anchorages each month."

The craft operate in two main areas: the eastern and western anchorages

of Singapore. Each area is served by two garbage-collection craft. Three flotsam retrievers ply the eastern zone, while another two serve the western side.

As the garbage-collection craft approach ships at anchor, the crew on board various vessels will throw their waste into bins fitted onto the craft. The disposal service is free for up to 20 trash bags per vessel. Anything more will require a special service, whereby another craft with empty bins will be deployed at a fee. About 300 vessels are served at the ports daily.

Innovation with a compactor

To increase efficiency and capacity, the garbage-collection craft were fitted with compactors, similar to those used in garbage trucks, in 2010. This innovation

“Some members of the public mistakenly believe that all these (flotsam) are thrown overboard from ships, but it’s not true as they usually drift in with the tide.”

Cheong Meng Tak, Manager of Resource Management, MPA

was the brainchild of the Centre of Innovation for Marine and Offshore Technology at Ngee Ann Polytechnic, Tian San Shipping and MPA. Once the bins are filled, they are unloaded at a garbage centre and the waste is taken to the incinerator.

Another major component of waste management at sea is retrieving flotsam. The common daily finds include plastic bottles, drink cans, food packaging, leaves, seaweed and small tree branches.

Occasionally, craft fitted with cranes are used to lift more difficult debris, such as tree trunks, wooden pallets, unregistered wooden dinghies, and even refrigerators.

“Some members of the public mistakenly believe that all these [flotsam] are thrown overboard from ships, but it’s not true as they usually drift in with the tide,” explains Cheong.

The most unusual item that drifted into Singapore waters was a big whale carcass in December 2011. It was found near the Pasir Panjang Terminal and had to be towed to an offshore island to be cut and disposed of, which took about a week.

Singapore’s monsoon seasons – the north-east monsoon (December to early March) and south-west monsoon (June to September) – present a major challenge to the retrieval of flotsam. The monsoons bring in a large amount of flotsam, thus intensifying retrieval work. In those

months, the flotsam collected can be as much as double the usual amount.

Says Cheong: “During those periods, we usually receive a lot of feedback from the public, so we will deploy an additional garbage-collection craft in those areas to allow the flotsam-retrieval craft to offload into the bins of the garbage-collection vessel.”

The authority is constantly on the lookout for innovations to improve its waste-management process.

For instance, to shore up its service

level, MPA introduced an e-receipt system in October last year. The system allows shipping agents or shipmasters to retrieve and download information, such as the timings of the garbage-retrieval service and the number of bags disposed, from MPA’s e-commerce platform MARINET the next working day after the vessel has been served.

According to Cheong, there are plans to explore new technologies to improve the way MPA monitors its waste-management operation.

BY THE NUMBERS

4

GARBAGE-COLLECTION
CRAFT SERVING
THE PORT OF
SINGAPORE DAILY

5

FLOTSAM-RETRIEVAL
CRAFT SERVING
THE PORT OF
SINGAPORE DAILY

500

TONNES OF WASTE
COLLECTED EACH
MONTH

100%

INCREASE IN FLOTSAM
RETRIEVED DURING THE
MONSOON SEASON

20

TRASH BAGS PER
VESSEL ARE DISPOSED
FOR FREE

10

MINUTES TAKEN TO
COLLECT TRASH BAGS
FROM EACH VESSEL

GLOBAL W LOCAL SHO

The event will see the **GLOBAL** maritime community gather in Singapore for a week of conferences, dialogues, networking opportunities and outreach events.



Since its inauguration in **2006**, SMW has grown in size and significance, and is drawing more participants and event organisers from around the world.



8TH

edition of SMW is set to make waves again this year.

Singapore Maritime Week (SMW) is the annual premier maritime event organised by the Maritime and Port Authority of Singapore (MPA).



AVE HITS RES

THE 8TH SINGAPORE MARITIME WEEK WILL GATHER THE INTERNATIONAL MARITIME COMMUNITY IN SINGAPORE FOR A WEEK OF CONFERENCES, DIALOGUES, EXHIBITIONS AND SOCIAL EVENTS. BY JAMIE EE

The series of events and activities on offer reflect the vibrancy and diversity of Singapore as a **major international maritime centre**.

ACTIVITIES

for SMW 2013 will not only engage the maritime community, but also reach out to the public through exhibitions and contests.

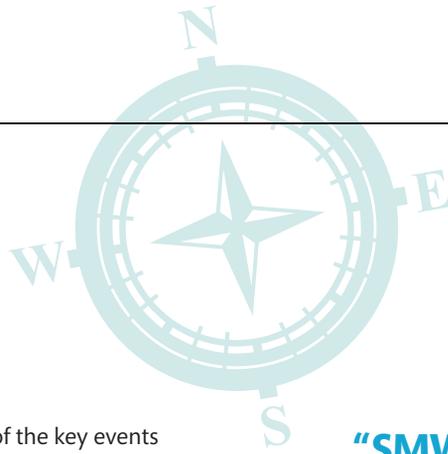


Key maritime personalities gracing the event include **JAMES HUGHES-HALLET**, Chairman of John Swire & Sons Ltd. He will deliver this year's Singapore Maritime Lecture.

A pre-SMW **EXHIBITION** will be held at Plaza Singapura from April 1 to 7.

6 DAYS
SMW 2013 is held from April 7 to 12.





► The growing success of Singapore Maritime Week (SMW) reinforces Singapore's strengths as an international maritime centre, and the city-state's global appeal to maritime organisations and personalities to organise their meetings and activities here.

With something new to offer every year, SMW maintains its main tagline of People, Ideas and Opportunities for the maritime community and beyond.

Lam Yi Young, Chief Executive of MPA, says: "I am happy to note that SMW 2013 has once again received strong support from the maritime

community. Some of the key events in this year's SMW include the International Maritime Awards, the 7th Singapore Maritime Lecture, Sea Asia, and the International Chemical and Oil Pollution Conference and Exhibition, (and it) will end with a full-deployment, multi-agency chemical spill exercise."

SMW 2013 will also reach out to the public through various outreach events that aim to raise awareness of Maritime Singapore, and offer information about the maritime industry in a fun and engaging manner.

"SMW 2013 will once again be a key platform for the international maritime community to come together, exchange ideas and explore opportunities."

Lam Yi Young, Chief Executive,
Maritime and Port Authority of Singapore





A series of outreach activities has been lined up for SMW 2013. The SMW 2013 public exhibition, An Insight into Maritime Singapore, which precedes the week itself, will be held from April 1 to 7 at Plaza Singapura. As a curtain-raiser to the week-long event, the exhibition takes on an educational theme, with displays of interesting artefacts and exhibits that will offer a glimpse into Maritime Singapore.

Also on display at the exhibition will be the Pozzie Project. The initiative sees Pozzie, a fictional merman character, photographed at rarely seen workplaces of nautical companies and

organisations in Singapore, thus offering a behind-the-scenes look at what makes the industry tick.

The winning and shortlisted entries from a pre-SMW T-shirt design competition will also be showcased during the exhibition.

With the support of LASALLE College of the Arts, the competition invited the public to create a T-shirt design inspired by their impressions of maritime Singapore.

And for those seeking a challenge, they can join the Amazing Maritime Adventure, which will test participants' knowledge of all things maritime and see teams competing in a

series of nautical-themed games and challenges around some of Singapore's maritime landmarks. To be held on April 7, the event is jointly organised by MPA, the Singapore Maritime Foundation, the Singapore Shipping Association and the Association of Singapore Marine Industries.

SMW 2013 will also reprise its annual Maritime Learning Journeys. On these trips, students and the public will get a first-hand experience of Singapore's maritime industry through a visit to a local shipyard, a tour of the newly opened Singapore Maritime Gallery at Marina South Pier and a trip out to sea.

To stay abreast of the evolving international maritime climate, SMW offers industry players a platform to hear from key players in the industry, as well as gain valuable insights on pertinent maritime issues and trends through meaningful conferences and forums.

A key event in the SMW calendar is the Singapore Maritime Lecture, where prominent speakers share

their views on pertinent issues regarding the maritime industry. This annual high-level forum, attended by leading personalities and decision-makers in the maritime industry, is by invitation only.

Previous speakers include Singapore's former prime minister Lee Kuan Yew, Nils

Smedegaard Andersen, CEO of A.P. Moller-Maersk Group and Koji Sekimizu, Secretary-General of the International Maritime Organization. This year, James Hughes-Hallett, Chairman of John Swire & Sons Ltd, will deliver the lecture. The Swire Group is a multi-disciplined conglomerate that counts marine services as one of its core businesses.

Additionally, the biennial International Chemical and Oil Pollution Conference and Exhibition will be held from April 9 to 12 this year.

As the only international event in Asia focusing on risk mitigation for oil and chemical logistics, the event will cover issues such as safe shipping, managing of complex offshore, exploration and production operations, strategic response systems and various aspects of risk management.

At the MPA Bunkering Forum, the maritime

community will get an update on the latest initiatives implemented, as well as ongoing reviews and measures to improve the industry.

The biennial Sea Asia is another key trade event. Held at Marina Bay Sands from April 9 to 11, this year's exhibition will cover about 16,000 sq m, and is expected to draw more than 14,000 executives.

Conferences during the event will focus on current issues that influence the maritime markets, such as maritime financing, design technology and green ships.

Another important issue that will be discussed is the significance of China to the region and the world.

Other conferences offered at SMW 2013 include the 6th Ballast Water Treatment Technology Conference, the annual Offshore Drilling Rigs Conference and the Oxford Bunker Course.



Ideas



Opportunities



SMW is also a time for the community to connect through various social events. One such event is the biennial Singapore International Maritime Awards, a gala dinner and awards ceremony where individuals and companies are recognised for their outstanding contributions to Singapore's development as a premier global hub port and an international maritime centre.

The winner of the Next Generation Container Port Challenge will also be revealed at the event. Announced during SMW 2012, the challenge called for participants to submit new and innovative proposals for a container port of the future. The aims of the challenge are to raise awareness of the maritime industry, foster innovation and encourage greater partnerships between the industry and academia to come up with new concepts and ideas for the maritime sector. The winner of the competition will receive a US\$1 million (S\$1.25 million) cash prize.

More than 1,000 local and foreign seafarers will also get the opportunity to interact with one another through activities like soccer, basketball and tug-of-war during the annual International Sportsweek for Seafarers organised by MPA.

\$100 MILLION
WAS SET ASIDE FOR
MARITIME SINGAPORE
GREEN INITIATIVE
LAUNCHED AT
SMW 2011

First SMW
public exhibition at
VivoCity in 2008 drew
12,500 VISITORS

For SMW 2011, more than 70
participants spent **300 man-hours**
and used more than **100,000**
Lego pieces to build a mural of
the maritime industry

2x

How the Sea
Asia exhibition
space has
grown, from
about 8,000
sq m in 2007
to about
16,000 sq m
this year

SMW organises
open competitions
to **reach out to the
public**. Think nautical
run (2008), photography
competition (2010),
postcard contest
(2011) and container-
design competition
(2012)



**NUMBER OF
PARTICIPANTS
FOR THE AMAZING
MARITIME
CHALLENGE 2012
OVER 800**

CHEM-SPILL EXERCISES

DESIGNED TO TEST
THE INDUSTRY'S
RESPONSE TO
CRISES AT SEA,
ARE COMMONLY
FEATURED
DURING SMW



**DID YOU
KNOW?**

**SMW has grown in
size and significance
since its inaugural
run in 2006, reaching
out not only to the
maritime community,
but also the public
through a series of
events and activities.**



CALENDAR OF EVENTS

APRIL 7 SUNDAY	APRIL 8 MONDAY	APRIL 9 TUESDAY	APRIL 10 WEDNESDAY	APRIL 11 THURSDAY	APRIL 12 FRIDAY	
MORNING/AFTERNOON EVENTS						
Singapore Maritime Week Exhibition (April 1-7)		Maritime Learning Journeys				
Amazing Maritime Adventure	Launch of Ship Sale Form Book	International Chemical and Oil Spill Conference 2013				
Singapore Maritime Week Launch	Singapore Shipping Association Tea Talk	Sea Asia 2013			11th MPA Bunkering Forum	
			7th Singapore Maritime Lecture			
			International Sportsweek for Seafarers (April 10-13)			
		4th Annual FPSO Conference				
		5th Annual Offshore Drilling Rigs Conference				
		5th Annual Offshore Support Vessels Conference				
		Oxford Bunker Course (Advanced)			5th Annual Asian Maritime Law Conference (April 11-13)	
		6th Ballast Water Treatment Technology Conference		Moore Stephens Singapore Shipping Forum		
		ReCAAP ISC Piracy and Sea Robbery Conference				
EVENING EVENTS						
	Sea Asia 2013 Speakers' Dinner		ICOPCE Speakers' Dinner	Singapore International Maritime Awards 2013		
		Singapore Association of Ship Suppliers Anniversary Gala Dinner	Sailor's Society Drinks Reception			

Events organised wholly or in part by the Maritime and Port Authority of Singapore, Association of Singapore Maritime Industries, Singapore Maritime Foundation and/or Singapore Shipping Association

Events organised by other parties

Events are accurate as of March 20, 2013



HONG LAM MARINE AIMS TO STAY ON TOP OF THE COMPETITIVE BUNKERING SECTOR WITH CONSTANT INNOVATION. BY JAMIE EE

PIONEERING SPIRIT

► Bunker craft operator Hong Lam Marine has pioneered many firsts in Singapore's bunkering industry. It was the first bunker craft operator to introduce the largest double-hulled bunker tanker in South-east Asia in 2005; it was a forerunner in the installation of mass flow meters on its bunkers in 2010; and the first to introduce green hybrid bunker tankers in 2011.

This keenness in innovation has allowed the 32-year-old firm to anticipate and respond quickly to customers' transportation needs and regulatory changes, positioning it as one of the leading bunker craft operators in Singapore, one of the top bunker ports in the world.

In an interview with *World Bunkering* in 2010, Chief Executive Lim Teck Cheng said: "We try very hard to keep abreast of industry trends and requirements through constant dialogue with industry members and customers. A core part of Hong Lam

Marine's business is the provision of quality bunker tankers to our customers."

The company has come a long way since Lim and his father started it in 1981. Back then, it had only two steel tankers on time charter to Esso. Today, it operates 37 tankers – one of the biggest fleets of bunker tankers in Singapore. Despite its history, its fleet is young, with an average age of five-and-a-half years.

The home-grown company has also successfully expanded beyond Singapore's shores – it now has three bunker tankers in the United Arab Emirates and one in Australia. On top of that, it has branched out into dealing with small chemical tankers and product tankers.

Turning point with new builds

The company's growth and success can be traced back to a key decision in 1989 to venture into the construction of new



craft. In 2000, it established a building programme to build tankers in shipyards in Japan and China. Since then, it has taken delivery of more than 40 bunker, product and chemical tankers.

In 2005, following a push by the Singapore Government to encourage double-hulled tankers to minimise risk of oil pollution in the harbour, Hong Lam Marine brought in *Leadership* – the first 9,000 DWT (deadweight tonnage) double-hulled tanker in Singapore and the biggest of its kind in Asia back then.

More massive bunker tankers followed. In 2009, it brought in the world's largest purpose-built bunker tankers *Spectrum* and *Splendour* – each at 22,000 DWT – to Singapore.

As a testament to its position as a leader

on board its vessel *Emissary* – approved by SPRING Singapore and accepted by the Maritime and Port Authority of Singapore for use in bunker-fuel delivery. It is in the midst of getting another mass flow meter on board one of its vessels approved by the authorities.

“As a service provider, we currently provide carriage and that’s about it,” said Lim in another interview with *Bunker Bulletin* in December 2012.

“Now, we are saying that our carriage can include better custody-transfer practices. That’s what we want to offer customers who want these services.”

Building green vessels

On the back of growing demands for green solutions, Hong Lam Marine has ventured into building eco-friendly vessels. It built its first diesel-electric vessel in 2011 and now operates six of these in the harbour. These green craft are estimated to lower bunker consumption by about 30 per cent. It has also begun building the first green diesel-electric lube-oil tanker to replace its fleet of conventional lube-oil tankers, and expects to receive four vessels this year.

While Singapore is planning for LNG bunkering operations to be ready at its ports by 2015, Hong Lam is not in a hurry to build and operate LNG bunker tankers yet. In *Bunker Bulletin's* report, Lim said: “To build these (LNG bunker tankers), you need to have a certain amount of bunkering demand. Presently, there are not many ships that are built to run on LNG, so it will take about five to 10 years before you are able to get a decent critical mass.”

Going forward, the slowing demand for bunker fuel and increasing cost pressures are some challenges that the company will have to steer through.

“We are seeing many new players coming in with new bunker tankers, while few single hulls are being phased out. Bunker demand is showing signs of softening compared to the strong growth in previous years,” said Lim in *Bunker Bulletin*.

“If this trend continues, we will see an oversupply of bunker tankers at the port. This will lead to the market becoming a lot more challenging.”

This keenness in innovation has allowed the 32-year-old company to anticipate and respond quickly to customers’ transportation needs and regulatory changes.

of innovation in the local industry, Hong Lam Marine was the first company in Singapore to install mass flow meters on board its vessels in 2010.

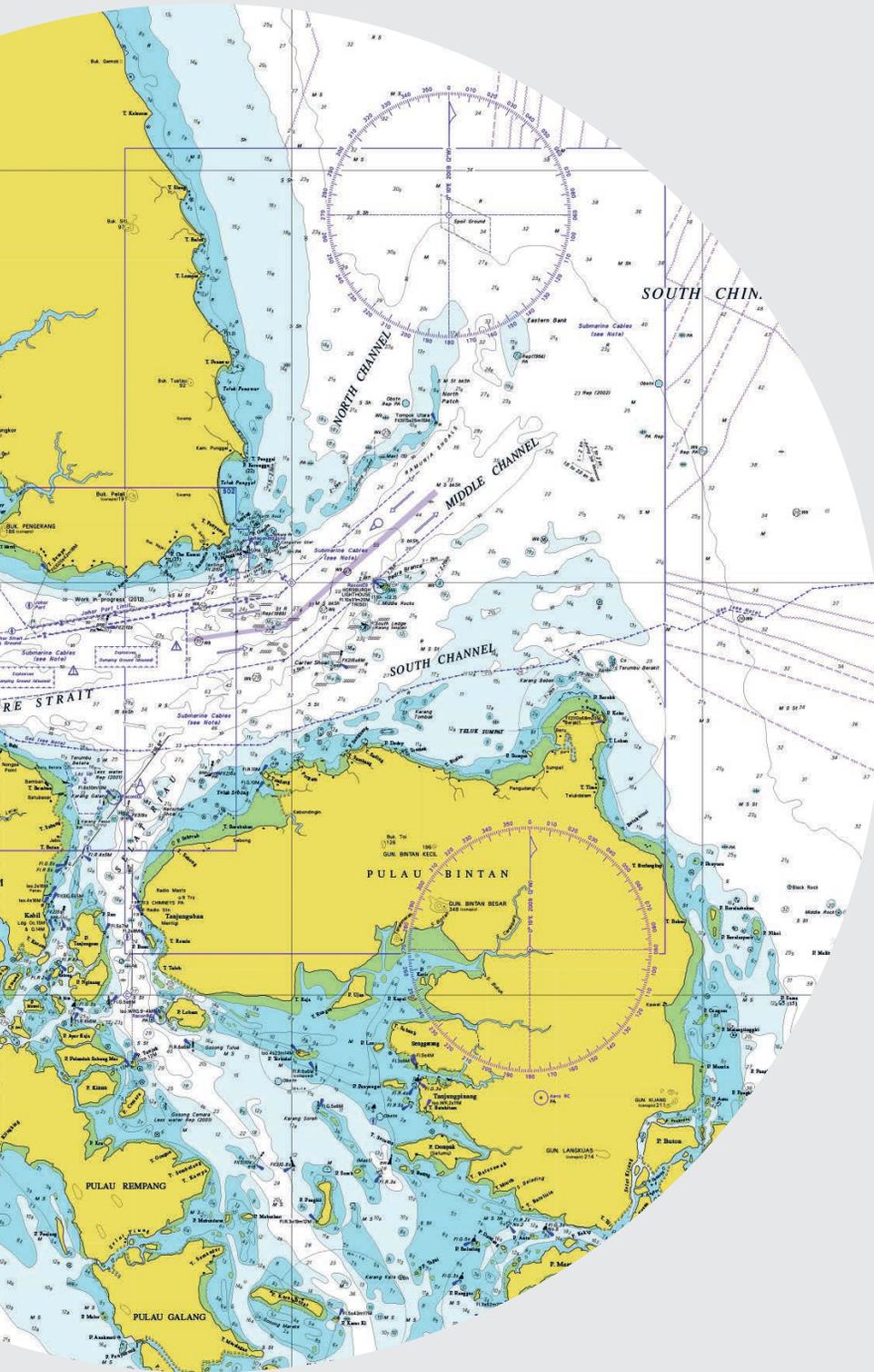
These meters are designed to eliminate human error that can occur when traditional measurements on bunker tankers are taken before and after bunker delivery. The mass flow meter, however, measures the mass of fuel piped into a ship in real time, which has proven to increase the accuracy of the transfer.

In 2012, after two years of intense testing and trials, it became the first bunker operator to have a mass flow meter – fitted



CARTOGRAPHY

BEFORE THE MANUAL PROCESS OF MAKING NAUTICAL CHARTS WAS
NG HUI HUI FINDS OUT HOW THE MARITIME AND PORT AUTHORITY



► A nautical chart – a graphical representation of a part of the Earth’s surface – is one of the most important tools to a mariner. Unlike a map, a nautical chart provides critical information such as positional references, seabed information, as well as depth and location of navigation aids such as buoys and beacons.

It emphasises areas of water and geographical features that allow mariners to determine their position, avoid hazards and plan a safe route to a destination. It is therefore important that nautical charts are updated regularly.

The Maritime and Port Authority of Singapore (MPA) undertakes the important task of producing nautical charts covering Singapore’s waters and other areas such as the Straits of Malacca.

Its Hydrographic Department has jointly produced 15 nautical charts with the United Kingdom Hydrographic Office, and makes regular updates of them. The department also produces seven smaller-scale charts covering the Malacca and Singapore Straits.

“Whenever there are major changes to the charts, a new edition would be produced. We also issue monthly notices to mariners to update the relevant nautical charts,” says Lim Wee Kiat, MPA’s Deputy Chief Hydrographer.

MPA also produces electronic navigational charts (ENC), which complement the traditional paper charts. It has appointed 10 worldwide distributors to disseminate the Singapore ENCs.

MPA has two specialised boats that are deployed daily to survey Singapore’s waters. The data is then processed.

COMPUTERISED

COMPUTERISED, PRODUCING A NEW CHART TOOK UP TO EIGHT MONTHS. OF SINGAPORE IS USING TECHNOLOGY TO EXPEDITE THE PROCESS.

The tedious process was computerised in 1989, and the production time was eventually reduced to eight weeks.

“There are a lot of development works in Singapore. Because of these developments, seabed depth may change. To ensure navigational safety is not compromised, it is important to provide mariners with timely and accurate information,” says Lim.

Chart production: Then and now

MPA produced the first nautical chart in 1978, said Jenny Goh Siew Ngoh, Senior Technical Officer of the Hydrographic Department. Prior to 1978, its UK counterparts produced the charts.

“At that time, we decided that we should develop this expertise because we are responsible for what is happening in our own waters,” adds Lim.

As specialised training was required to produce the nautical charts, cartographers such as Goh were sent to India for a two-month cartography course to learn the necessary skills to manually produce the charts.

In those days, says Goh, it took eight months – excluding the time needed for surveys and data gathering – to produce a new chart.

She adds: “Everything was done manually, from the selection and tracing of sea depths and contours, to transferring the drawing onto a film for the production process.”

The tedious process was computerised in 1989, and the production time was eventually reduced to eight weeks.

With the chart production computerised, the time needed to train a new employee decreased from two years to about two months.

New staff currently go through both theoretical and on-the-job training, after which they are able to produce such digital charts on their own.

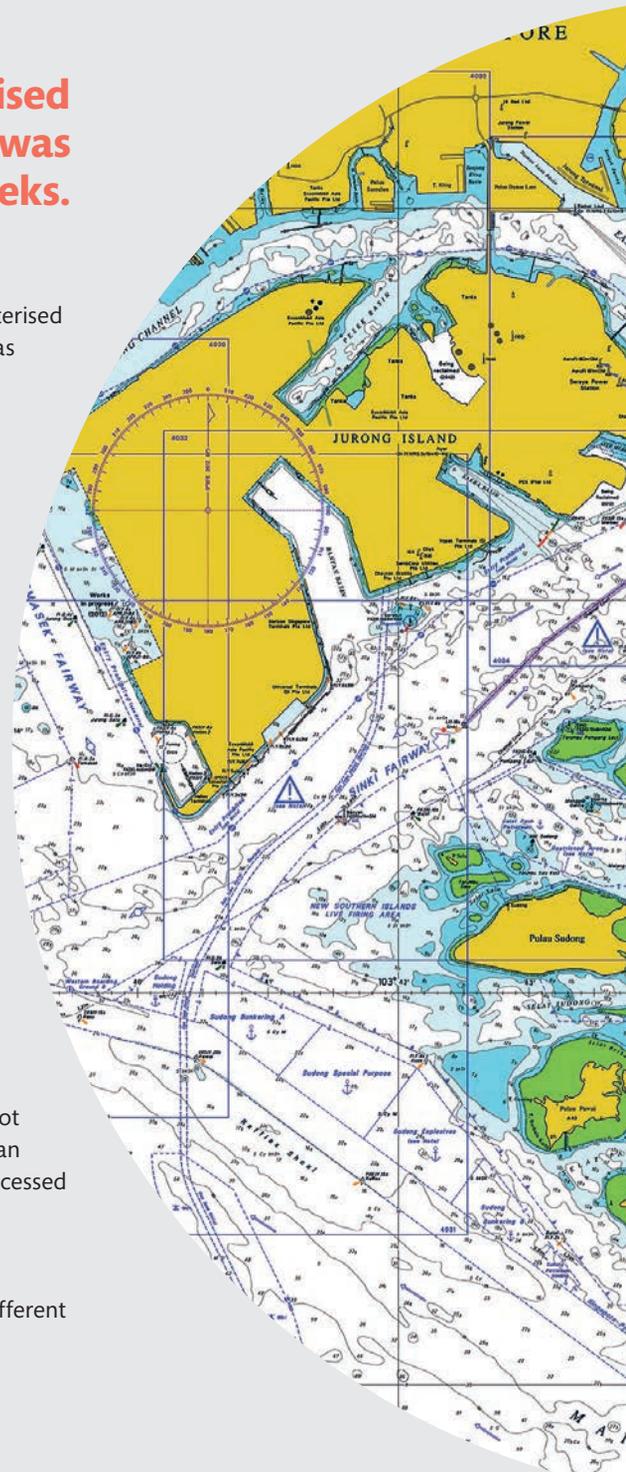
Quality assurance

“To ensure consistency and accuracy in chart production, staff have to be meticulous and patient to avoid overlooking details that are critical to navigation,” says Goh.

The Hydrographic Department is currently upgrading its database system to reduce the manual processes related to charting.

The upgraded database would not only reduce the occurrence of human errors, but also allow data to be processed with greater efficiency.

Lim adds: “There is no room for mistakes in this job. The chart goes through two rounds of checks by different cartographers once it is compiled.”



MAN ON A

JANG HWANG-HO, DIRECTOR GENERAL OF THE MARITIME SAFETY POLICY BUREAU OF THE REPUBLIC OF KOREA, GIVES INSIGHT INTO HIS VISION FOR THE MARITIME INDUSTRY AND HIS HOPES FOR CONTINUED COOPERATION WITH SINGAPORE.

► Singapore recently played host to Jang Hwang-Ho, Director General of the Maritime Safety Policy Bureau, Ministry of Land, Transport and Maritime Affairs, Republic of Korea (ROK). His two-day visit in January was part of the Maritime and Port Authority of Singapore's Distinguished Visitors Programme.

While in Singapore, Jang also co-chaired the third bilateral meeting under the Memorandum of Understanding (MOU) on maritime co-operation with Lam Yi Young, Chief Executive of the Maritime and Port Authority of Singapore. *Singapore Nautilus* manages a quick catch-up with him.

What are some of the ongoing cooperation efforts between ROK and Singapore?

One of our biggest concerns is the safety of Korean-flagged vessels, particularly in dealing with pirates.

In 2010, ROK and Singapore signed an MOU. Some of the initiatives under the MOU include enhancing navigational safety in the Straits of Malacca and Singapore, implementing technical cooperation projects for developing countries and preventing piracy and armed robbery. We are also supportive of the International Maritime Organization's (IMO) global activities, and we discuss matters related to the reduction of greenhouse gas emissions from shipping.

I believe more efforts can be channelled into the latter, in response to the IMO's environmental regulations for global green shipping. To fulfil this

long-term goal, we should continue to maintain a bilateral-cooperation system to exchange related information on initiatives to reduce greenhouse gases, in line with the Maritime Singapore Green Initiative carried out in Singapore and the Greenhouse Gases Energy Target Management Pilot Project of Korea.

You have been director general of the Maritime Safety Policy Bureau for about six months now. What are some of the challenges you face and how do you plan to overcome them?

In the midst of continuous challenges in the shipping industry, vessel safety and environmental regulations impose additional burdens on shipowners. However, the time is ripe for the government, shipbuilders and the shipping industry to gather their strength and deal with these problems together.

In particular, the IMO's environmental regulations for green shipping provide a great opportunity for future growth. We therefore plan to gear our capabilities and policies towards R&D, technological developments and low-carbon green growth. This will be beneficial to the shipping industry in the long run.

What are some issues that you consider top priorities?

I target to have no major accidents. Such accidents, like the sinking of a liner and oil-pollution incidents, have serious implications on the safety of human life and the maritime environment. To achieve this, I have identified six major aspects that

require special attention. They include enhancing the safety capability of the maritime practitioner, increasing vessel safety and advancing the maritime safety management system, building a smart maritime transportation environment, strengthening international cooperation, putting in place a maritime-safety culture as well as advancing the emergency response system.

What is crucial in making an organisation an efficient one?

I take a very human-centric approach to managing people. While the technical capability of an organisation's employees is important, it is also crucial to inspire passion and motivation among all staff, so they can work better together. Learning to work towards a common long-term vision also gives people a sense of purpose and belonging to an organisation.

Who do you look to for inspiration?

There are three people. The first is Julius Caesar. I read his biography when I was young and was moved by his rational thoughts and determination to do his best in any circumstance.

The second is Confucius. My father introduced me to his philosophy. I strongly believe in the virtue of benevolence that Confucius has always maintained.

The third is Liu Bang, who founded China's Han dynasty. His capability for empathy, ability to allocate his resources and willingness to accept advice from his subordinates are what I believe allowed him to unite the world.

MISSION



► Before James Hughes-Hallett delivers his address to movers and shakers in the shipping industry at the upcoming Singapore Maritime Lecture, he would have likely stood on his head in the morning. This has nothing to do with nerves – Hughes-Hallett is a seven-year yoga devotee who dutifully goes through his stretches and poses for 30 minutes before he starts his day.

Says the 64-year-old jokingly over the phone from the UK, where he is based: “Yoga is good for my body and my heart, and it probably makes me a slightly easier colleague and nicer person!”

Yoga, of course, is not what he is here to speak about.

The chairman of John Swire & Sons Ltd has had a long and diverse career with the company, which was founded in 1816 and is now a huge conglomerate which runs a wide range of businesses across the world. And he will draw from his experiences in the maritime sector for the lecture. The Singapore Maritime Lecture has been an integral part of the Singapore Maritime Week since 2007.

“I love the maritime industry,” he adds. “Where else can you find an entrepreneurial business, where almost

everybody in the decision-making chain is involved and feels a close personal association with the outcome?”

Interestingly, Hughes-Hallett likens the maritime industry to a board game. “It is simple in the sense that there is a clear link between execution, risks and rewards.”

He also finds the shipping industry fascinating because shipping is inextricably linked to global economic news.

“I’m a news hound, and the changes in the shipping market give a wonderful picture of what’s going on in the world,” says Hughes-Hallett.

Early forays

And yet, he might never have stepped into the maritime industry if he had fulfilled his wish to be a journalist after he graduated from Oxford University, armed with a degree in English literature.

“I do lean towards the arts and humanities. But I had a tough time trying to find a journalism job in London in the 1970s,” he recounts.

A whiff of chartered accounting, the first proper job he “unhappily” landed himself, threw him off the accounting trail forever.

Hughes-Hallett, whose CV still states

that he is a fellow of the Institute of Chartered Accountants in England and Wales, shares: “It was so boring and so incredibly tedious. The moment I qualified for fellowship, I quit. I realised that what I wanted was to travel, see the world and work abroad.”

Rich experiences

Returning to the grounds of Oxford University, Hughes-Hallett had the job-placement office to thank for guiding him to an opening at the Swire Group.

“That was a huge stroke of luck,” he says, with a smile in his voice. “I have had such interesting times in my career here.”

Some highlights of Hughes-Hallett’s career include a stint at merchant shipping entity China Navigation Company when he was in his 30s.

He also fondly recalls a memorable posting to Philadelphia in the US, where he dealt with ladies’ knitwear.

The Philadelphia company eventually went bankrupt and folded. But the experience was so rich that Hughes-Hallett can only describe it as “interesting and funny”, and potential fodder for a soap opera.

With countless opportunities to travel

KNOWING THE SCORE

JAMES HUGHES-HALLETT, CHAIRMAN OF JOHN SWIRE & SONS, WILL BE DELIVERING THE KEYNOTE ADDRESS AT THE SINGAPORE MARITIME LECTURE 2013. WONG SHER MAINE FINDS OUT MORE ABOUT THIS INTERESTING SPEAKER.

the world, Hughes-Hallett lets on that his favourite place to visit is Tokyo, where he worked as a shipping salesman in the '70s.

"At that time, Japan was in a very exciting phase of development and I love the way life is lived there," says Hughes-Hallett, who can speak some Japanese.

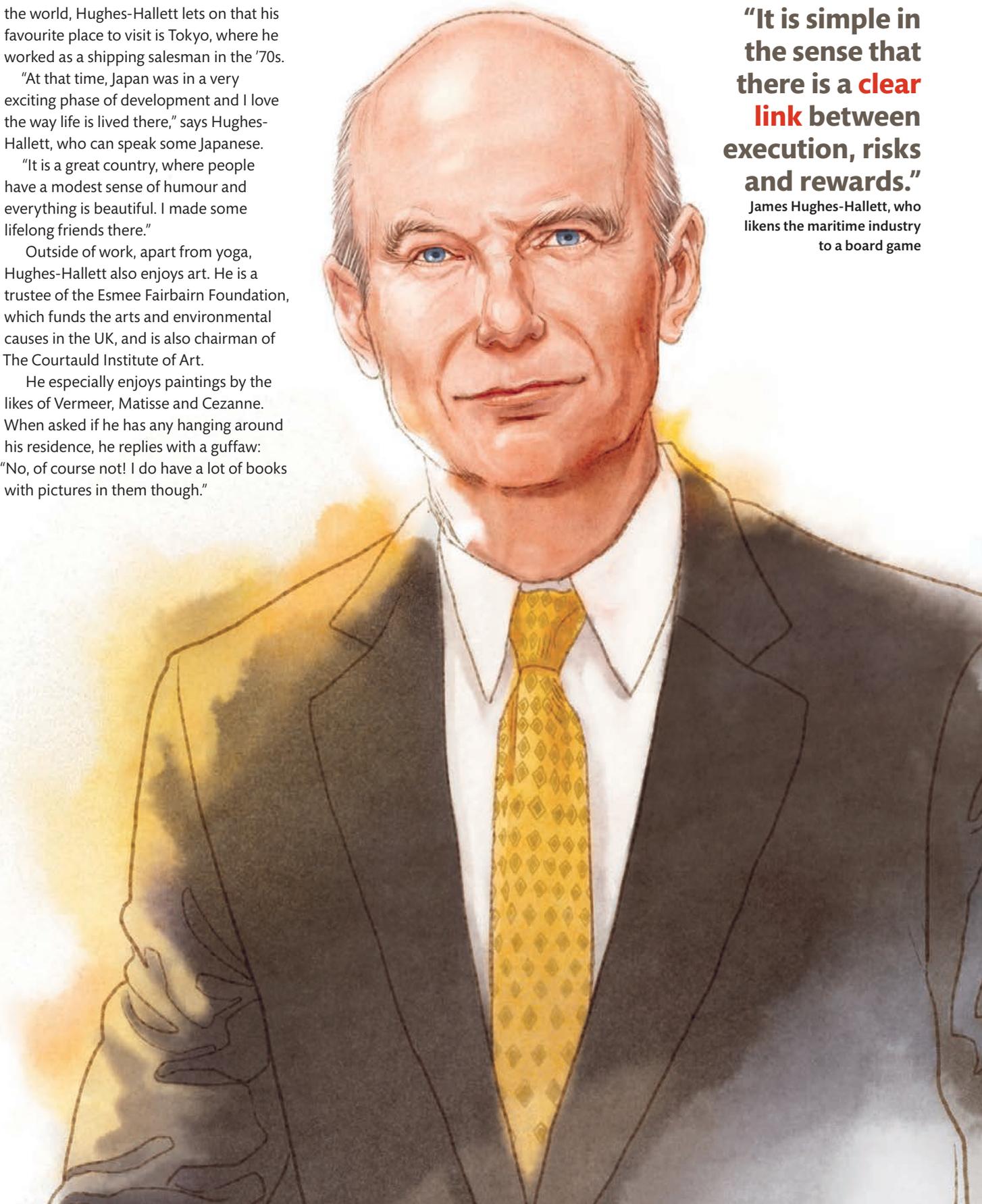
"It is a great country, where people have a modest sense of humour and everything is beautiful. I made some lifelong friends there."

Outside of work, apart from yoga, Hughes-Hallett also enjoys art. He is a trustee of the Esmee Fairbairn Foundation, which funds the arts and environmental causes in the UK, and is also chairman of The Courtauld Institute of Art.

He especially enjoys paintings by the likes of Vermeer, Matisse and Cezanne. When asked if he has any hanging around his residence, he replies with a guffaw: "No, of course not! I do have a lot of books with pictures in them though."

"It is simple in the sense that there is a clear link between execution, risks and rewards."

James Hughes-Hallett, who likens the maritime industry to a board game





SUSTAINABLE

▶ The Singapore maritime industry's aim to achieve sustainability has led to various green initiatives in recent years.

For starters, the Inter-Ministerial Committee for Sustainable Development unveiled a blueprint for Singapore's sustainable development in April 2009. Titled *A Lively and Liveable Singapore – Strategies for Sustainable Growth*, the blueprint sets out the key goals and initiatives for the next 10 to 20 years.

Shortly after, the Government and regulatory bodies launched various initiatives to encourage individuals and business sectors in Singapore to go green, said a report by *The*

affairs, said in 2011: "One key challenge confronting the maritime industry today is balancing economic growth with the need to protect our marine environment. Today, shipping remains by far the most efficient form of cargo transport. It carries more than 90 per cent of world trade, but contributes only about 3 per cent to global carbon dioxide emissions.

"Nevertheless, as a responsible international player, the shipping industry is committed to play its part to reduce greenhouse gas emissions."

The Maritime Singapore Green Initiative comprises three programmes – the Green Ship Programme, the Green

for the development and adoption of green technologies and equipment, and is capped at \$2 million per project. It is also limited to two successful applications per company per year.

MPA said it would increase funding by an additional \$25 million if the programme receives a favourable response.

GTP is open to Singapore-registered companies engaging in maritime-related businesses like terminal operations, ship-owning or ship operations, and harbour-craft operations.

For projects that involve ships or harbour craft, the vessels and craft must be Singapore-registered – and must remain so – for a specified period upon the

SOLUTIONS

AS THE CALL FOR GREEN SHIPPING GATHERS STEAM, LOCAL COMPANIES GET HELP TO ADOPT ECO-FRIENDLY TECHNOLOGIES. DESMOND NG FINDS OUT HOW.

Business Times in May 2011.

Among these was the Maritime Singapore Green Initiative launched by the Maritime and Port Authority of Singapore (MPA) in April 2011.

The initiative aims to reduce the environmental impact of shipping and related activities, and promote clean and green shipping in Singapore.

Raymond Lim, then minister for transport and second minister for foreign

Port Programme and the Green Technology Programme (GTP).

GTP was set up to encourage local maritime firms to develop and adopt eco-friendly technologies, through co-funding companies' early adoption of new green technologies. MPA has set aside \$25 million from the Maritime Innovation and Technology fund for this programme.

The grant is up to 50 per cent of total qualifying costs

completion of the project.

These projects should also meet the following criteria: have verifiable emissions-reduction results that comply with industry performance guidelines; have not been commonly deployed in the maritime industry; and have system-integration design and retrofitting (or installation) done in Singapore.

GTP also seeks to be applicable in different areas



of the industry. For example, terminal operators might benefit from more efficient diesel engines for port vehicles and equipment, which would lead to emission reduction. Harbour-craft operators also stand to benefit from more efficient engines or power management systems.

According to MPA, there has been good response from the industry since GTP started in April 2011. To date, it has committed \$11.4 million on 12 approved projects.

The approved green projects include diesel-electric harbour craft, fuel cavitator

system, weather-routing system and trim-optimisation equipment.

Leading integrated shipping firm Norgas Carriers is one of the 12 companies that received the green grant under GTP last year. The company installed a Dynamic Trimming Assistant (DTA) on some of its vessels to save fuel and reduce its carbon emissions.

DTA is a vessel-based system developed in Finland that monitors and optimises the trim of a vessel with the help of technology. Norgas Carriers Environment Manager, Captain VRS Rajandran,

To date, MPA has committed **\$11.4 million** on **12 approved projects.**



says GTP has helped the company push forward its green initiatives. He notes that more firms, especially those in Europe, are mindful

of the environmental initiatives undertaken by their clients.

He adds: "The support from the Government and MPA is crucial."

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Singapore Nautilus is the quarterly corporate publication of the Maritime and Port Authority of Singapore. Reaching out globally, the magazine covers the latest maritime-related news and initiatives in Singapore, and provides a platform for thought leaders to share ideas on international maritime trends and developments. You can sign up for a free subscription to *Singapore Nautilus* by e-mailing us at SN_subscribe@mpa.gov.sg

SINGAPORE'S PORT STAYS AFLOAT DESPITE SHIPPING SLUMP



GROWTH OF GLOBAL TRADE, FORESIGHT, CAREFUL
PLANNING AND GOOD FORTUNE HELPED SINGAPORE FEND OFF
ITS COMPETITORS. BY JONATHAN KWOK



► Observers of the global maritime sector will be familiar with the five-year shipping slump, which has seen many smaller firms go under, be forced to consolidate or be acquired by larger liners.

Since 2008, even the most well-known global container-liner firms have been hit, with profits well down – if they are even making money at all. The recent tough times has led offshore specialist DNB Bank to declare that “we have just entered the sixth year of the shipping downturn”.

But Singapore’s port has managed to pack in strong growth on several measures used to chart port performance during the same years of the shipping downturn. Vessel arrival tonnage – which measures the combined capacity of ships calling here – has risen almost 40 per cent since 2008, to last year’s estimated 2.25 billion gross tonnes. The sale of bunker fuel has grown over 20 per cent in this period, to about 42.7 million tonnes last year.

So why the incongruence between the downbeat fates of the shipping lines and the strong growth in Singapore’s port?

The basic reason lies in the vastly different economics underpinning the ports and shipping sectors.

The key problem facing the shipping firms was an oversupply of ships as they had ordered too many new ships in the boom years leading up to 2008. With the new vessels lying around, the shipping companies tried to gain market share by slicing freight rates – but this in turn bit hard into bottom lines and even forced some firms into the red. High fuel costs were also a headache for the liners.

But underlying all this, global trade was growing every year except in 2009. In 2011, when shipping firms were awash in red, the volume of world merchandise trade grew 5 per cent and the World Trade Organization expects 2.5 per cent growth last year and a 4.5 per cent rise this year.

Asian trade growth has been even faster, helping Singapore’s port and competitors like Shanghai and Malaysia to grow their businesses.

While Singapore’s port has done well to distinguish itself, the republic still faces key

challenges that it has to overcome in order to grow further.

Land constraints

One of the key challenges is to raise productivity while using as little land as possible in land-scarce Singapore. It is encouraging then that the Government is planning way ahead in this aspect. It has outlined a longer-term scheme to concentrate port activities in Tuas.

The plan is for the upcoming Tuas Port, which will sit on 1,700ha of reclaimed land, to be able to handle up to 65 million standard-sized containers every year – more than double the 31.6 million containers handled last year. At the same time, the Government is also sourcing for novel ideas to design Tuas Port.

“This consolidation will increase efficiency through greater economies of scale and provide the opportunity to introduce new technology and processes to meet the future challenges of container shipping,” said Lam Yi Young, Chief Executive of the Maritime and Port

“It is easy to copy some measures like financial incentives, but harder for others. If viewed as a package, the competition is hard pressed to replicate Singapore’s success.”

Andrew Chiang, DNB Bank’s Regional Head of Asia for Shipping, Offshore and Logistics



Authority of Singapore, which oversees the sector.

Regional competition

While careful planning and innovation can solve the land issue, competition poses a larger challenge as the ball may not be in Singapore’s court.

The Republic’s main business is in trans-shipment – meaning the vast majority of cargo arriving here is promptly loaded onto another ship to be moved elsewhere. The other main trans-shipment hubs in the region are Hong Kong and Johor’s Port of Tanjung Pelepas (PTP).

Other countries are also not sitting idly by. Ports in South Korea and China have been looking to catch up, and Indonesia is starting on a new trans-shipment port in Tanjung Sauh, an island between Batam and Bintan.

Threats will exist in the longer term if other cities replicate Singapore’s maritime eco-system, but the consensus is the Republic’s lunch should be safe in the short to medium term if it continues to raise

productivity while maintaining a pro-business environment. After all, developing a hub like Singapore’s will take many years.

In recent years, Singapore has also managed to fend off competition by a mix of planning and good fortune.

In terms of planning, the Government has managed to grow a “maritime cluster”, including ship financing, ship broking, and legal and technical services, which complements the wide network of shipping lines that call here. This “hub effect” which allows firms to easily transfer cargo to another company’s ship to be moved elsewhere has given Singapore’s port an edge over South-east Asian competitors such as Malaysia’s PTP.

Good luck comes in the form of Singapore’s location. Unlike its other main competitor Hong Kong, which is grappling in recent years with China’s slowing growth, Singapore is benefiting from more business and production work in South-east Asia and South Asia.

The result is that Singapore’s container-handling numbers last year grew more

than those of any regional competitor. Singapore’s figures grew 5.7 per cent to 31.6 million containers – more than PTP’s 2.9 per cent – while Hong Kong’s port volumes actually contracted by 5.3 per cent.

“It is easy to copy some measures like financial incentives, but harder for others,” said Andrew Chiang, Regional Head of Asia for Shipping, Offshore and Logistics at DNB Bank. “If viewed as a package, the competition is hard pressed to replicate Singapore’s success.”

The challenges of land and competition may appear daunting but the country should overcome them – in the medium term at least – through foresight, continued careful planning, and a good dose of luck.

Source: *The Straits Times*, Singapore Press Holdings Ltd. Published on Feb 19, 2013, this article was edited for length and reprinted with permission.

APART FROM ENSURING THE SMOOTH OPERATION OF PORT FACILITIES, A PORT MASTER IS TASKED WITH MAINTAINING THE NAVIGATIONAL SAFETY OF VESSELS WITHIN SINGAPORE WATERS, OVERSEEING PILOTAGE SERVICES AND ENFORCING PORT REGULATIONS. **DESMOND NG** SPEAKS WITH MARITIME VETERANS WITH EXPERIENCE IN THIS JOB.

HOLDING



Captain M Segar



Captain Lee
Cheng Wee

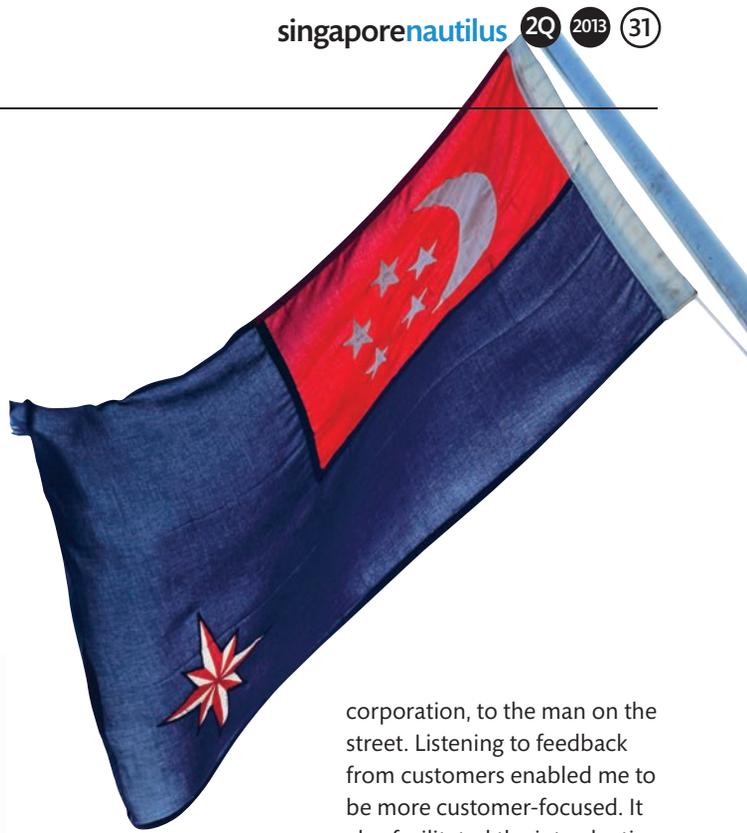


Captain Khong
Shen Ping

Port Masters

- **Captain Lee Cheng Wee** Served from 2008 to present
- **Captain M Segar** Served from 2001 to 2008
- **Captain Mark Heah Eng Siang** Served from 1994 to 2000
- **Captain James Fong** Served from 1992 to 1994
- **Captain Khong Shen Ping** Served from 1982 to 1992

FORT



Captain
James Fong

Captain Mark Heah
Eng Siang

► **SINGAPORE NAUTILUS (SN):**
What were some of your challenges during your tenure as port master?

CAPT LEE (CL): With the limited sea space available and the ever-increasing number and size of vessels calling at the port, the biggest challenge is to ensure that every one of these vessels arrive and depart safely and efficiently (with shortest turnaround time). The other challenge is to ensure safe movements of MPA-licensed harbour craft and pleasure craft within the port waters.

To ensure that the port remains commercially competitive for vessels to call at, it is always a challenge to strike a balance between ensuring the safety of vessels and port facilities, and the efficient movement of vessels within the port.

CAPT SEGAR (CS): In my seven-and-a-half years as port master, I had to deal with all facets of port operations and people from different walks of life - from the CEO of a big

corporation, to the man on the street. Listening to feedback from customers enabled me to be more customer-focused. It also facilitated the introduction of improvement initiatives for the port. With many staff under my charge, I also learnt the importance of creating opportunities for my staff to feedback, learn, grow and move on.

CAPT HEAH (CH): I had to find some balance between my dual roles of being a "regulator" and a "service provider". In addition, I had to uphold the statutory functions of enforcing the legislation pertaining to the responsibilities of a port master. I always had to be professional and fair in all my dealings.

I also had to build a close rapport with our neighbouring countries and ASEAN members. We formulated cooperative measures - such as collaborating and cooperating with our neighbouring countries on Vessel Traffic Information System (VTIS) operations, combating oil spills and exchanging views to enhance navigational safety and the protection of the marine environment. There was a need to have a channel of communication, especially with our immediate

neighbours, as we are littoral states sharing common straits used for international navigation.

CAPT FONG (CF): A challenge that I had to face was having to understand human nature well. For example, when the VTIS was handed to us to implement, people were skeptical at first, seeing that it was a new and unexplored idea. I understood that the reluctance was due to a lack of confidence. I then proceeded to announce to the world that we would be starting the VTIS. People still ask me how I had the courage to do such a thing. I think we managed to do it quite well.

CAPT KHONG (CK): I had to take care of navigational safety and efficient access to the port. The Port of Singapore was growing physically with increases in shipping traffic and activities. New facilities like shipyards and terminals contributed to the increase. Ships also started to get bigger. We had to make use of pilotage as a means to enhance safety and efficiency. Hence, we were training more pilots (expert ship handlers with detailed knowledge of the

local waterways and currents) and have better berthing-control measures in place.

SN: What was your most memorable experience as a port master?

CL: One of my most unforgettable experiences as a port master was on May 25, 2010, when there was a collision between two vessels in the Traffic Separation Scheme – south-east of Changi East, resulting in 2,500 tonnes of crude oil being spilt into the sea. Due to unfavourable wind and tide conditions, the spilt crude oil reached the shores of East Coast Parkway. The beaches had to be closed. The challenge was for the port master to coordinate with different agencies and organisations, and to mobilise all the resources required to remove and recover the spilt oil so everything could return to normal as soon as possible.

CS: I've had many memorable experiences during my tenure as a port master. However, one experience that has always stood out for me would be the

nostalgic closure of Clifford Pier in 2006. As port master, I had to take the light (lantern) away as a symbol of closure. Clifford Pier has served the shipping community dutifully as a public landing place for some 73 years. Clifford Pier's humble beginnings and progression in time somewhat parallels Singapore's evolving maritime landscape. As a mariner, I am honoured to have witnessed some of these transitory stages of Clifford Pier leading up to her maritime retirement.

CH: The clean-ups of two major oil spills during my tenure as port master are some of my most memorable experiences. They were for the tanker *Evoikos* (Oct 15, 1997) and vessel *Natuna Sea* (Oct 3, 2000). MPA, cooperating

with the shipping community and regional parties, cleaned up the oil spills in record time, given the amount of oil spilled. I was covering duties with another director and was in charge of the clean-up operations.

I also learnt a lot about media management then, having to face the media on behalf of MPA.

CF: We were just coming out of the Singapore cable car incident (of 1983). The atmosphere in the industry was one of extreme caution. But we could not continue under that kind of environment because we had to meet the growth of the port face on.

As port master, I challenged the community to try new things – one of the first on

“A good port master has to be a listener, negotiator, visionary, goal-setter, catalyst, teacher, mentor and even a cheerleader.”

Captain M Segar, who served as port master from 2001 to 2008



the list was to accept the VTIS. People had to start embracing change and to learn to make full use of it.

CK: My most memorable and satisfying experience as port master has been the setting up of the radar system or VTIS at our Port Operations Control Centre in October 1990. Because the port was getting busier, we had to adopt technology to manage shipping movements effectively at the port and monitor traffic in the Straits of Malacca and Singapore.

SN: What are the qualities of a good port master?

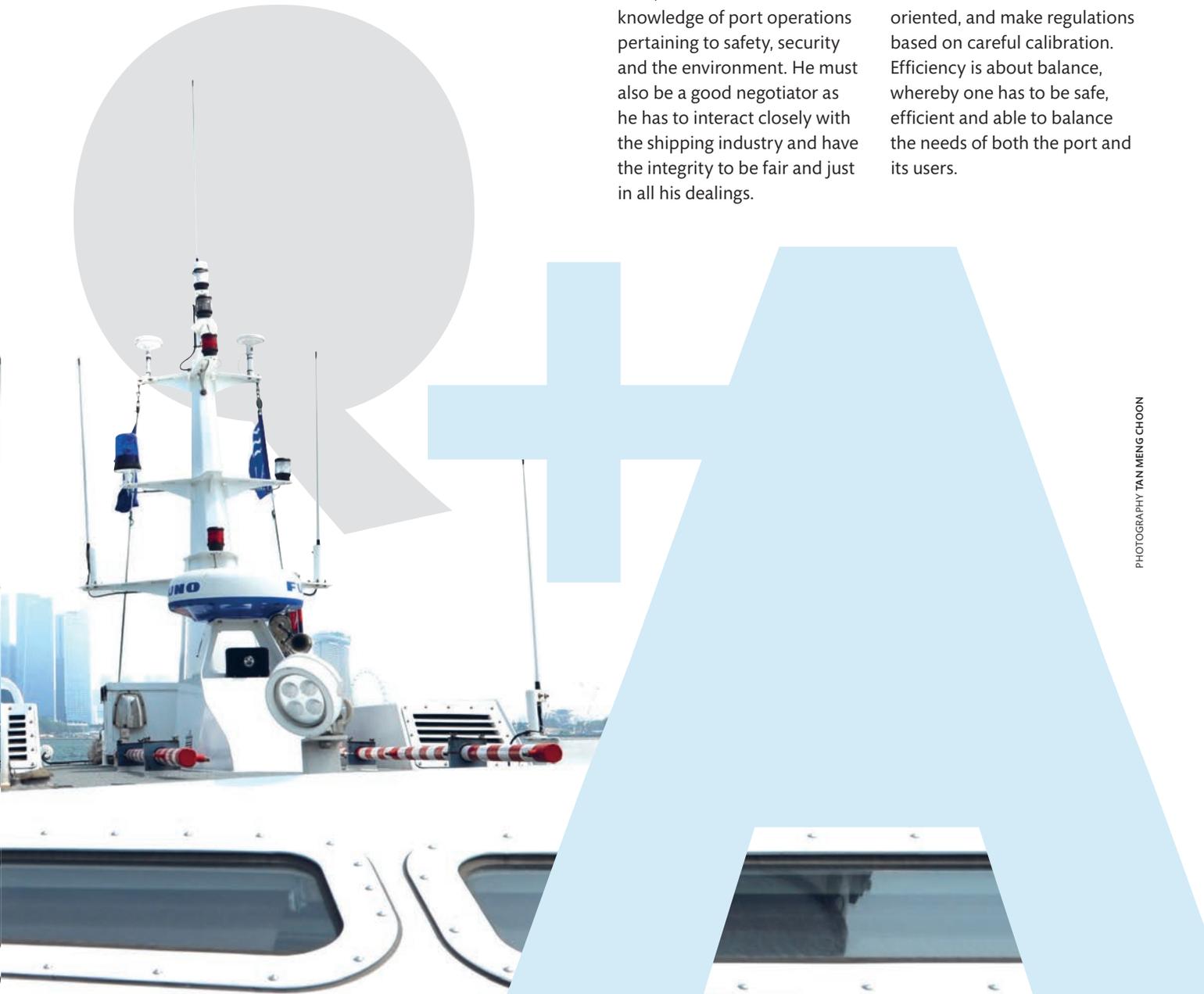
CL: Knowledge of the port, such as familiarity with the port waters, anchorages, fairways, port facilities and MPA regulations, including international safety conventions, is very important. As a former Authority-licensed harbour pilot, the ship-handling skills, knowledge and experience acquired from directly handling ships of all types and sizes are also important for me to carry out my responsibilities.

CS: As a port master's work is fast-paced and time-sensitive, I have found that maintaining composure and keeping a good sense of humour are some important traits to defuse work tension. A good port master has to be a listener, negotiator, visionary, goal-setter, catalyst, teacher, mentor and even a cheerleader.

CH: It is customary that a port master also holds a Master Foreign-Going Certificate. I feel that the professional training this entails equips a port master with the necessary skills, such as the added knowledge of port operations pertaining to safety, security and the environment. He must also be a good negotiator as he has to interact closely with the shipping industry and have the integrity to be fair and just in all his dealings.

CF: A port master has to empower his people and be able to manage downwards, sideways and upwards. Many things are related to safety, but one of the biggest challenges is not technical – it includes managing people. A port master needs to recognise that there are people who might be more knowledgeable in certain areas, and not be afraid to ask around for opinions.

CK: A port master has to manage ships in a very busy harbour, so he has to be competent and know his job well. He must also be service-oriented, and make regulations based on careful calibration. Efficiency is about balance, whereby one has to be safe, efficient and able to balance the needs of both the port and its users.



► Spending about seven months away from home a year, Woon Wei Zhang, 31, travels to places such as China, Bali, and even Africa for work as a process engineer with BW Offshore. The company is a leading global provider of floating-production services to the oil and gas industry, and is represented in major oil regions such as Europe, the Asia-Pacific, West Africa and the US. Woon tells *Singapore Nautilus* about his work.

Why and how did you become a process engineer?

I joined BW Offshore after graduating from the National University of Singapore with

a chemical engineering degree in 2008. During my third-year internship, I joined a local company dealing with fibreglass installation, helping out with a project at Sembawang shipyard. That was how I found out about BW Offshore and the concept of floating production, storage and offloading (FPSO) units. The hands-on job experience and satisfaction of finishing the project were tremendous. From there, I decided to join a team to design and deliver FPSO units.

What does a process engineer do?

I am involved in the design of an FPSO unit's topside.

An FPSO is a floating vessel commonly used by the offshore oil and gas industry for processing hydrocarbons and oil storage.

For example, when an FPSO unit extracts oil from an oil field, we have to understand the chemical and biochemical processes that will take place. Water and gas are also produced in the extraction of oil. We will then need to process and treat the water, compress or stabilise the gas, as well as store the oil.

What is a typical workday like?

A workday is never typical! I spend about seven months away for work in a year,

and I am frequently on-site following through the construction of an FPSO in China, Indonesia or even Africa. I also spend time at the office working on the design of an FPSO, or writing up a contract for an existing project.

Do you have any memorable experiences to share?

On my first work trip to an African country to facilitate the construction of an FPSO unit in 2008, I was detained at the airport before returning home. My items were searched through several times, which made me quite nervous. I realised the airport

ENGINEERING

SATISFACTION FROM CONCEPTUALISING AND DELIVERING COMPLEX FLOATING PRODUCTION, STORAGE AND OFFLOADING UNITS LED WOON WEI ZHANG TO CARVE OUT A CAREER AS A PROCESS ENGINEER. BY DESMOND NG



personnel actually wanted some money, but I didn't give it to them. They eventually let me go and I managed to board my flight.

What are some of the challenges you face in your job, and how do you overcome them?

Different projects throw up different challenges. When I started work as a fresh graduate, I had to work hard to accumulate knowledge and learn from experiences along the way. Most importantly, if there was anything I was unsure about, I had to make sure I ask someone.

As my job entails many overseas postings, another

challenge I face is dealing with different cultures and people. I am always mindful about respecting the countries I am visiting, and being sensitive to the feelings of others.

What do you like most about your job?

We deal with big projects which may take years to complete. After a long period of hard work, I always feel a

great sense of achievement to be part of a team that has delivered the project.

What do you do when you are off duty?

I like fishing and go whenever I have the time. My friends and I charter a boat out in Singapore waters, or fly to Indonesia or Sabah to fish. Fishing gives me the chance to catch up with my friends.

DESIGN



GOD OF THE SEA



THIS YEAR'S SINGAPORE MARITIME WEEK MASCOT, *POZZIE*, IS INSPIRED BY THE IMAGE OF GREEK DEITY POSEIDON. READ ON TO LEARN MORE ABOUT THIS MYTHOLOGICAL FIGURE.



► Poseidon is recognised as one of the 12 Olympian deities of the pantheon in Greek mythology. Known as the God of the Sea, he is the protector of the waters, and the ocean is his domain.

Poseidon is frequently portrayed in Greek art riding the seas in a chariot pulled by horses. Second in power only to Zeus among the Greek gods, he is also associated with dolphins – popularly perceived by seafarers to symbolise good luck – and the trident.

It was believed that Poseidon's trident could shake the earth and shatter any object.

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Email: singapore@dnvps.com

DNVPS Oslo

Veritasveien 1 N-1363
Hovik, Norway
Tel: +47 67 57 9900
Fax: +47 67 57 9393
Email: dnvps.oslo@dnv.com

DNVPS Rotterdam

Zwalseweg 1
2994 LB Barendrecht
The Netherlands
Tel: +31 10 292 2600
Fax: +31 10 479 7141
Email: rotterdam@dnvps.com

DNVPS Houston

318 North 16th Street
La Porte, Texas 77571, USA
Tel: +1 281 470 1030
Fax: +1 281 470 1035
Email: houston@dnvps.com

DNVPS Fujairah

Port of Fujairah
P.O. Box 1227
United Arab Emirates
Tel: +971 9 222 8152
Fax: +971 9 222 8153
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From the planning of long-term bunker strategies to smooth fuel deliveries and safe consumption, our services are tailored to your specific needs.

At DNV Petroleum Services, we're setting the global standards in marine fuel management.

Our quality and integrity is your best assurance.

MANAGING RISK

