

Make your ships invisible
to everyone but you.



Introducing SingTel's OFFICE-AT-SEA – the only global maritime communications solution on a private network.

Keep your information secure and improve your business with SingTel's OFFICE-AT-SEA – Asia's first comprehensive maritime communications solution. SingTel's OFFICE-AT-SEA offers data transfers via a private network, ensuring sensitive business information is sent on a secure pathway, giving you high-speed connection with complete privacy. What's more, with SingTel's OFFICE-AT-SEA you and your crew will enjoy improved and cost-effective maritime communications with unlimited, always-on IP Broadband. SingTel's OFFICE-AT-SEA can do everything its competitors can do, except its secure network gives you a competitive edge.

SingTel's OFFICE-AT-SEA gives you:

- Unlimited, always-on IP Broadband
- Secure maritime communications via SingTel's ConnectPlus IPVPN
- Improved business efficiencies and cost savings
- Economical voice calls enabling crew to stay in touch with loved ones

To find out more, contact
SingTel Satellite Customer Service.
Tel: +65 6416 9333; Fax: +65 6483 4140;
Email: satellite@singtel.com
Website: www.singtel.com/officeatsea

Proud Title Sponsor of the 2008 FORMULA 1™
SINGTEL SINGAPORE GRAND PRIX
Log on to www.singtelrace.com for more SingTel
Singapore Grand Prix action.



Copyright © 2008 Singapore Telecommunications Limited (CRN: 199201624D). All rights reserved.

ISSUE 5 • 4Q 2008

SINGAPORE

Nautilus

A Maritime and Port Authority of Singapore Quarterly



Maritime Now!

INSIDE • Ahead of the curve • Cool Technology • Bonjour Singapore! •



EDITOR-IN-CHIEF
Matthew Lee

EDITORS
Nicolette Ho, Corrine Ng,
Greg Knowler, Saul Symonds

EDITORIAL COMMITTEE
Khong Shen Ping, Tan Beng Tee,
M. Segar Abdullah, Toh Ah Cheong,
Richard Tan, Yee Cheok Hong,
Tan Cheng Peng, Cheong Keng Soon

EDITORIAL CO-ORDINATOR
Isabell Tay

CONTRIBUTORS
Eric J. Brooks, Chris Davis, Rahita Elias

ADVERTISING CO-ORDINATOR
Rorena Chia

PUBLICATION LAYOUT
Nick Berriff

For feedback on Singapore Nautilus, please email to
singaporenautilus@mpa.gov.sg

Singapore Nautilus is
published for MPA by:
Marshall Cavendish Business Information Pte. Ltd.
1 New Industrial Road
Times Centre
Singapore 536196



MPA
SINGAPORE

MARITIME & PORT AUTHORITY OF SINGAPORE
460 Alexandra Road
#18-00 PSA Building
Singapore 119963
Tel: +65 6375 1600
Fax: +65 6275 9247
www.mpa.gov.sg

No part of this magazine may be reproduced or transmitted by any means or stored in any information storage and retrieval system without the publisher's written permission.
The views expressed in the *Singapore Nautilus* magazine are those of the authors and do not necessarily reflect either the views of the Maritime and Port Authority of Singapore (MPA) or Marshall Cavendish Business information. The MPA and Marshall Cavendish Business information do not guarantee the accuracy of the information contained in *Singapore Nautilus* nor do they accept responsibility or liability for errors or omissions or their consequences.

© The Maritime and Port Authority of Singapore

Contents

COVER STORY

Singapore Maritime Week
People. Ideas. Opportunities. | 8

PORT & STARBOARD

Raising the bar | 14

TECHNOLOGY

Lessons from the Arctic | 18

MARITIME SERVICES

Hello Helios | 22

COMPANY SPOTLIGHT

New found energy | 24

Keeping the faith | 26

PERSONALITIES

Greener pastures | 28

Man of honour | 30

COMMENTARY

Making waves in a new frontier | 32

COMMUNITY TALK

Chart topper | 36

From the Editor-in-chief | 3

Ship's Log | 4

Maritime Nuggets | 40



It's about leadership.

Control your impact. Global environmental concerns are increasingly becoming an issue which will impact on shipping as well. Long experience of ship legislation and international rule frameworks has clearly demonstrated that the shipping industry must actively engage in short- and long-term solutions to minimize emissions to air and discharges to sea. Our purpose is to safeguard life, property, and the environment. DNV provides a number of services that address shipping's environmental impact – so that you can go ahead with confidence.

Classification • Certification • Statutory Services • Maritime Consulting

Right here. Right now.

All routes lead to Singapore for the Singapore Maritime Week. Industry captains ashore for a *mélange* of events from international conferences to dialogues, exhibitions and business-networking receptions. Flag off with a thousand pairs of sea legs at the inaugural Singapore Nautical Run – a spectacular curtain-raiser, as the maritime community unites for the President’s Challenge.

Jostle for a vantage position as both makers and seekers of news from the world over congregate in Singapore. After all, you never know who might say what, where and when. Pay rapt attention as the Secretary General of the International Maritime Organization delivers the sophomore Singapore Maritime Lecture, and fellow maritime luminaries share their insights, discuss and debate the environmental challenges to shipping – the silent enabler of global trade. Expect a *tour de force*.

But do not fret if you are unable to meet everyone. *Singapore Nautilus* caught up with a cross section of the chic and the *crème de la crème* who will be in town: the cool professor, oil *honcho*, leading lady and honorary citizen. We also feature French companies CGGVeritas and Socrata in Singapore. *Bienvenue!*

Be enthralled by an exciting exhibition of aids to navigation past, present and future, and agree that the maritime sector is truly one that is at the forefront of change and technology.

Throughout the week, savour the sights and sounds of Singapore. Then gather over cocktails at a smorgasbord of evening receptions. Reacquaint with old friends and make new ones. *Gemeinschaft* or *guanxi*, it is all about the people you meet and the networks you plug into.

Singapore Maritime Week, truly a celebration of all things maritime: people, ideas and opportunities.

Matt



MPA aces Singapore's pro-enterprise awards



THE STRONG PARTNERSHIP between the public and private sector has seen Singapore government agencies scooping their best ever scores for pro-enterprise performance in the fifth annual survey by the Action Community for Entrepreneurship (ACE).

The MPA finished with flying colours, taking the top spot for the second consecutive year.

"The survey results are very heartening as they suggest that a pro-enterprise culture has taken root in MPA," said MPA's chief executive BG(NS) Tay Lim Heng. "I would like to thank the respondents – our customers and partners – for this endorsement, and reaffirm MPA's commitment to work closely with them in our mission to develop Singapore as a premier hub port and an international maritime centre."

Singapore and Indonesia expand maritime co-operation

THE SINGAPORE AND INDONESIAN maritime communities have further strengthened bilateral ties, expanding the scope of their co-operations to include the new areas of ferry safety and mishap management.

This will see MPA providing assistance to Indonesia's Directorate General of Sea Transportation (DGST) in both these areas, as well as discussion of issues relating to capacity building including the enhancement of navigational safety.

The talks coincided with the Director General for Indonesia's Sea Transportation, Effendi Batubara, visit to Singapore.

Batubara's visit not only reflects the close relationship between the Singapore and Indonesian maritime authorities but also the strong collaboration that exists between the littoral States of the Malacca and Singapore Straits.



Tan Sri Tsao receives Honorary Citizen Award

MARITIME LUMINARY

Tan Sri Frank Tsao Wen-King, has received the highest form of recognition given by the Singapore Government, for outstanding contributions by foreigners to the country's growth and development.

Founder and senior chairman of the IMC Group, Tsao received Singapore's Honorary Citizen Award 2007 from President of the Republic of Singapore S R Nathan at The Istana on 29 August 2008.

"I am very pleased and honoured to receive this highly prestigious award. Singapore has become a very important maritime hub and IMC, over the past 17 years, has grown along with it," said Tan Sri Tsao.

He continued, "The conducive environment in Singapore has enabled IMC's businesses to thrive. I am glad to play my part in the development of Singapore's prominent position on the global maritime map. This would not have been possible without the strong support of the Singapore Government, industry players and other institutions, and I share this award with them."

Commenting on the award, BG (NS) Tay Lim Heng, Chief Executive of MPA, said, "We are delighted as Tan Sri Frank Tsao has been a staunch advocate of our efforts to develop Singapore as an international maritime centre. The award is an endorsement of his unstinting support for and extensive contributions to an important part of the Singapore economy – our thriving maritime sector."

MPA hands out pilot safety awards



FIVE INCENTIVE AWARDS recognising the important role of marine pilots in enhancing navigational safety were handed out at the 6th Pilotage Incentive Award ceremony.

This speaks volumes for MPA's dedication to safety.

Speaking at the 6th Pilotage Incentive Award ceremony, MPA's chief executive BG (NS) Tay attributed the sharp reduction of piloted incidents to "the on-going joint efforts by the authority and PSA Marine in actively promoting safety awareness and professionalism among marine pilots."

He added that the high degree of professionalism on the part of the pilots was a major factor in ensuring that, as Singapore continues to expand as an international maritime hub, vessel movements remain incident free.

Singapore hits one billion mark early

THE ARRIVAL OF *APL Australia*, a container ship of 50,243 gross tonnes (GT), at the port of Singapore marked the crossing of the one billion gross tonnes shipping tonnage mark earlier than expected this year.

The mark was reached four months earlier than in 2004, when the shipping tonnage surpassed the billionth figure in December.

"Over the past few years, vessel arrivals in terms of shipping tonnage have registered double-digit increase. This new high in terms of timescale for the one billion breakthrough signals that 2008 may very well be another record-breaking year for the Singapore port," said Captain M Segar, Group Director (Hub Port), MPA.

He added that these achievements are only possible because of the efforts that Singapore's maritime and port community have made to provide value-added services.

Government and industry join hands to award scholarships

TARGETED AT DEVELOPING the educational landscape and creating greater awareness of maritime careers, it was a momentous occasion that marked the first time both government and industry have come together to hand out scholarships and sponsorship awards at the MPA and MaritimeONE scholarship award ceremony.

The 42 awards, which comprise of 10 MPA scholarships, three MPA sponsorships, 12 Tripartite Maritime scholarships, three SAIL scholarships and 14 MaritimeONE scholarships, were handed out to students. Those undertaking their first degrees will be schooled in either specialised maritime courses or other disciplines ranging from economics and political science to engineering and law.



Visitors to MPA



ABOVE
Delegation from Port Klang Authority headed by Chairman Dato' Lee Hwa Beng (3rd from left).

RIGHT
Canadian Senator Joseph A. Day (3rd from left).

BELOW
RADM Budhi Hardjo, Assistant Chief of Staff Security and Intelligence, Indonesian Navy (seated).



ABOVE
Delegation from the US Congressional House Committee on Transportation and Infrastructure and Mr Kuah Boon Wee, CEO Southeast Asia and Singapore Terminals, PSA Corp (4th from right).

Singapore Business Events Awards 2008



ABOVE
UK Department for Transport led by Mr John Faulkner, Head of International Networks (4th from left).



LEFT
European Commission Maritime Security Experts led by ADM Dr. Sigurd Hess (6th from left).



MPA's Singapore Maritime Week 2007 wins Convention of the Year award.



ABOVE
The Honourable Kevin Falcon, Minister for Transport, Ministry of Transportation, British Columbia, Canada (seated).

MPA's Distinguished Visitors Programme



ABOVE
Courtesy call by Mr Effendi Batubara, Director General, Directorate General for Sea Transportation (DGST), Indonesia (2nd from left) on BG (NS) Choi Shing Kwok, Permanent Secretary, Ministry of Transport, Singapore (3rd from left).

ABOVE
Gift exchange at dinner, hosted by Mr Peter Ong, Chairman, MPA.



Visit to MPA's Ports Operation Control Centre (POCC) 2.

MPA "sports-theme" Dinner & Dance



LEFT
Mr Yee Cheok Hong, Group Director (Policy and Planning), MPA, and Mr Adolf Richard Tambunan, Deputy Director, Directorate of Sea Traffic and Transport (left to right, seated) sign an extension of the cooperation in maritime training between MPA and DGST.



Distinguished guests and staff giving the event the 'thumbs-up'.



The Indonesia delegation experience the Singapore Flyer.



The Chairman and CE with the team behind the event.



Singapore Maritime People. Ideas.

Three years after SINGAPORE MARITIME WEEK was conceived, it is fast becoming the “must-attend” event in the hearts and minds of the international maritime community. *Singapore Nautilus* traces the development of this flagship maritime event and finds out what’s in store for this year’s edition and the next

By Greg Knowler

As a nation surrounded by sea and strategically positioned between East and West, the city-state owes a great deal to the vibrant and diverse maritime sector that is its lifeblood.

In celebration of the importance of Singapore’s maritime sector, but more importantly, to further develop Singapore as an international maritime centre, the Maritime and Port Authority of Singapore (MPA) has since 2006, organised the Singapore Maritime Week (SMW), which complements Singapore’s growing maritime cluster.

MPA chief executive BG (NS) Tay Lim Heng elaborates that this flagship event is to establish Singapore as a choice venue for international maritime events and the focal point for the



Week Opportunities.

international maritime community to congregate, share and exchange insights on maritime matters, as well as strengthen social networks. And in the process, create more buzz for the industry and add further value for maritime companies in Singapore.

Maritime Week has certainly grown from strength to strength. Its programme is enhanced each year with a clustering of back-to-back conferences and dialogues, seminars, social activities and business networking receptions to enhance the overall experience and participant value.

A measure of its success could be seen this year when the second edition of Singapore Maritime Week was named the Convention of the Year at the recent Singapore Business Events Awards. No

small feat considering that every convention in the city-state in 2007 was eligible for the award.

A look back to 2006 reveals that the event was quickly off the starting block with a total of 15 events clustered under the inaugural SMW umbrella, an impressive line-up by any reckoning.

Adding to the buzz, a number of industry players also organised their own networking dinners and receptions as well as board meetings during the week. Companies and associations such as ExxonMobil, I.M. Skaugen, J. Lauritzen and INTERTANKO held key meetings, and oil companies such as Shell, Aegean and O.W. Bunker organised receptions to coincide with SMW.

The first SMW left attendees impressed, such as Gina Lee-Wan, Vice-President of the Women's



“We envisage that the bringing together of [Singapore Maritime Week and Sea Asia] will further enhance the overall participant value and experience of the maritime community gathering in Singapore. Collectively, the host of conferences, dialogues, exhibitions and social events contributes to Singapore’s dynamism and vibrancy as an International Maritime Centre.”

- BG(NS) Tay Lim Heng

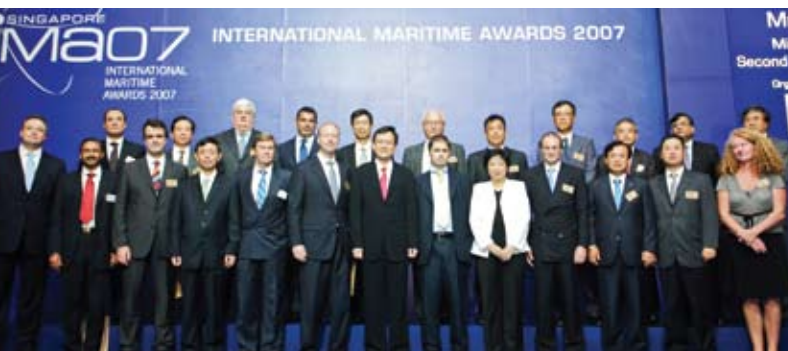
International Shipping and Trading Association (WISTA). “Singapore Maritime Week demonstrates very strongly MPA’s position and support for the maritime community,” Mrs Wan said after the event.

In 2007, the event passed another developmental milestone with the introduction of the Singapore Maritime Lecture for thought leaders to share their strategic insights on important maritime issues.

The lecture was conceived to further raise the level of intellectual capital, and in doing so, enhance Singapore’s position as a maritime centre for ideas.

Delivering the inaugural Maritime Lecture was Singapore’s Minister Mentor (MM) Lee Kuan Yew who highlighted the central importance of the maritime industry to the nation, noting that it contributed some 7.5 percent of Singapore’s GDP in 2005 and employed 95,800 people, or 4.1 percent of total employment.

“Our container port was the first in Southeast Asia in 1972, at the start of the containerisation





wave,” MM Lee said in his address. “It has become the world’s largest container trans-shipment hub today. From a labour intensive industry, the port evolved into a knowledge hub, employing cutting-edge IT systems.”

MM Lee further noted that Singapore had developed into a one-stop international maritime hub.

A suite of auxiliary maritime businesses have flourished and the city has a vibrant set of maritime businesses that lie at the heart of Singapore’s economy. To recognise companies and individuals that have significantly contributed to this maritime ecosystem, seven awards were presented at the Singapore International Maritime

Awards (IMA) gala dinner, another high key event under the SMW 2007 umbrella.

The third edition of SMW presents a comprehensive mix of events to appeal to the hearts and minds of both the local and international community. It marks the coming of age of SMW.

The participation of many maritime luminaries from both public and private sectors is expected to attract over 6,000 participants and put SMW 2008 on top of the “must-attend” list in the maritime calendar.

As the flagship event grew in size and popularity, MPA felt the experience of SMW should be expanded beyond the maritime community into society at large, to generate greater awareness of the dynamism and vibrancy of the maritime sector.

Therefore, for the first time, the VivoCity shopping mall will be the venue for “From Lighthouses to Electronic Charts - An Exhibition” that will give the public an exciting insight into the maritime world and art of navigation.

The exhibition is not the only bridge between the society and the industry being introduced to SMW 2008.

In collaboration with its industry partners, the maritime message will be taken to the streets



“Singapore Maritime Week demonstrates very strongly MPA’s position and support for the maritime community.”

- Gina Lee-Wan

by MPA, in the form of the inaugural Singapore Nautical Run (SNR).

More than 1,000 participants from within the maritime industry will line-up for the SNR at Singapore's scenic East Coast Park. There will be a competitive and non-competitive leg, and a post-run event where runners from the maritime community can mingle.

The run is a yet another new SMW event, this time to bring together the maritime community to raise funds for the less fortunate in society. All monies raised will go to the President's Challenge 2008 and The Straits Times Pocket Money Fund.

The high public profile of the run is the perfect curtain raiser for SMW 2008 and sets the tone for the nine days that follow.

Among the many highlights this year is the second Singapore Maritime Lecture, where International Maritime Organization (IMO) Secretary-General Efthimios Mitropoulos will share his insights on shipping and the issue of climate change, and the 15th Singapore

International Bunkering Conference (SIBCON), the leading conference for stakeholders to discuss the challenges to the marine fuel industry.

To demonstrate Singapore's readiness to deal with oil spill effectively and efficiently at all times, a multi-agency Joint Oil Spill Exercise (JOSE) will be conducted some 2.4 kilometres from the Raffles Lighthouse. About 100 participants from MPA and relevant government agencies, as well as Shell Eastern Petroleum Pte Ltd, oil spill response companies, and six oil terminals will be involved in this full-scale oil spill exercise.

After an extensive S\$5 million make-over, seafarers in port can now look forward to relaxing and recharging at the newly renovated Singapore Mariners Club Apartments. Officiating at the re-opening of the apartments will be Singapore's Minister Lim Swee Say, who is also the Secretary-General of the National Trades Union Congress (NTUC). Minister Lim will also be presenting hampers to the seafaring community in recognition of their important role and

Mark Your Diaries For Singapore Maritime Week 2009!

SINGAPORE
maritimeweek
2009

20-24
Apr 09

Highlights:

- International Chemical and Oil Pollution Conference and Exhibition (ICOPCE) 2009
- 3rd Singapore Maritime Lecture
- Singapore International Maritime Awards (IMA) Gala Dinner

PLUS

Sea Asia 2009 (21 – 23 Apr)

contribution to the seaborne trade. About 600 hampers will be given out to ships that call at Singapore's port.

The third edition of SMW will also see the participation of two international maritime organisations. Lloyd's List will hold the 2008 Lloyd's List Maritime Asia Awards in Singapore. While the event is not new to Singapore, it will come under the SMW umbrella for the first time.

Another new event is the launching of Seatrade's series of roundtable discussions. The Seatrade Corporate Social Responsibility Forum will present a panel of maritime leaders and experts from other industries who will speak on "green" shipping and business ethics.

And to forge international networks among the next generation of maritime leaders, BIMCO39 and Singapore's MaritimeONE are co-organising a reception for young maritime professionals.

Yet the drive to stay ahead of the curve is such that even in the midst of SMW 2008, MPA is preparing to make next year's event

even more spectacular.

"MPA will organise the annual Singapore Maritime Week in April 2009 with Sea Asia as an anchor event," said BG Tay.

"We envisage that the bringing together of both events will further enhance the overall participant value and experience of the maritime community gathering in Singapore. Collectively, the host of conferences, dialogues, exhibitions and social events contribute to Singapore's dynamism and vibrancy as an International Maritime Centre."

The inclusion of Sea Asia further augments the underlying thinking of SMW: the bringing together of the many faces, voices, companies and issues that comprise the vibrant maritime sector.

The maritime industry cuts across all sectors of life in the Lion City, and by the time the echoes of the last SMW presentation have faded, both maritime professionals and the public will have a clearer perspective on the maritime business that lies at the heart of Singapore's economy. ☎

Singapore International Maritime Awards 2009

Nominations now open

Award Categories:

International Maritime Centre (IMC) Award
Excellence in Training Development Award
Outstanding Maritime R&D and Technology Award
SRS Ship Owner of the Year
Bunker Award
Marine Service Provider Award
Offshore & Marine Engineering Award

Log on to www.mpa.gov.sg for nomination form and assessment criteria

Submissions close: 23 January 2009





PORT & STARBOARD





Raising the bar

Central to Singapore's growth as a premier bunkering port is an effective quality assurance system that TOR SVENSEN, Chairman of DNVPS believes can help raise the global bunkering business standards

By Rahita Elias

Singapore may not be naturally endowed with oil wells, but the fact remains that the city-state is among the top bunkering ports in the world. Annually, some 30 million tonnes of bunkers are supplied to ships from all over the world.

Indeed, it was Singapore's premier position as a global bunkering hub that drew Det Norske Veritas (DNV) to set up its fuel testing HQ, DNV Petroleum Services (DNVPS) here in 1993.

"When setting up this business line, it was important to establish our laboratories in locations where bunkering takes place," says Svensen. "It's all because of logistics. We want to get the samples to our laboratories as soon as we can; so DNVPS is located in bunkering centres like



Singapore, Fujairah, Houston and Rotterdam, and in Oslo.”

Commanding 70 percent share of the world’s fuel quality testing services market, DNVPS has made Singapore its largest fuel testing centre. About 10 percent of DNVPS’s business originates from Singapore while another 15 percent comes from the region.

Given the pro-active approach the city-state has taken to growing and developing the bunkering sector, the bunkering industry continues to be competitive with a strong international reputation for quality bunkering.

“Singapore is active in promoting itself as the world’s number one port. Being a major port, you have the services that go with it. By growing the port, you also grow shipping traffic and the

“Commanding 70 percent share of the world’s fuel quality testing services market, DNVPS has made Singapore its largest fuel testing centre.”

“It is the knowledge-based services that will enjoy stronger growth as owners look to optimise the fuel efficiency of their ships.”

bunkering industry.”

But more than just volume, the sector has also grown in stature.

“The bunkering industry here has become a very professional and efficient industry,” he affirms. “The Maritime and Port Authority of Singapore (MPA) has been proactive in setting the standards for the industry so that it is well-regulated.”

Svensen notes that Singapore has been at the forefront of establishing a code of practice to regulate the industry. And DNVPS is doing its part by partnering MPA to develop an effective quality assurance system to raise the bar in the bunkering industry here and globally.

“In Singapore, we are contributing to the development of fuel testing and standards for fuel sampling and quality, such as CP60 and CP77, which I believe will benefit the shipping community”.

In tandem with projected growth, Svensen expects the company’s business operations to expand and will be looking to hire more people for its laboratory and quantity surveying departments.

At present, 60 percent of DNVPS’s business comes from its fuel testing services. Other related services, such as fuel management, training, advisory and consultancy services make up the rest.

And it is the latter, more knowledge-based services that will enjoy stronger growth as owners look to optimise the fuel efficiency of their ships.

“In future, we expect much more focus on providing assistance on fuel management,” he says. “Shipowners are looking at reducing speed, better tuning of the engine, route planning and technological modifications to their engines in order to reduce fuel consumption. In this way, they save money and the environment.”

“We will leverage on our competence and infrastructure to provide the services that meet the needs of the shipping industry.”

EXECUTIVE MBA in Shipping, Offshore & Finance

Combining the latest research and theory with a practical-oriented “hands-on” approach, the Executive MBA in Shipping, Offshore & Finance is designed to give participants an understanding of the key drivers, challenges and opportunities in the shipping and offshore industry, with an exposure to the fastest growing Asian markets.

The objectives of the programme are to:

- *Develop strategic leadership skills in the shipping and offshore sectors*
- *Identify business opportunities within a company's value chain*
- *Gain a thorough understanding of the global shipping and offshore business*

Nanyang Executive Education also offers the following programmes:

- *Nanyang Executive MBA Programme*
- *Nanyang Executive MBA Programme with specialised tracks in Entrepreneurship, ICT & Design for Innovation*
- *Nanyang Fellows Programme (full-time)*
- *Berkeley-Nanyang Advanced Management Programme*

The Nanyang EMBA Programme (Entrepreneurship) is the only EMBA programme in Singapore to be given partial funding by SPRING Singapore for eligible SMEs.

***Information Session
by Professor Nilanjan Sen
Associate Dean***

Date:
Saturday, 18 Oct 2008

Time:
1.30pm to 3pm

Venue:
IRR Room, Fullerton Hotel

Please register your attendance at
www.execed.ntu.edu.sg





TECHNOLOGY





Lessons from the Arctic

Singapore draws new R&D ideas from the Arctic and, with the help of Professor JOHN DEMPSEY, grooms the next generation of Arctic specialists

By Rahita Elias

Singapore is relentless in pursuing cutting-edge maritime R&D even if it means drawing lessons from the Arctic. The boom in shallow and deepwater offshore operations and facility installation activities worldwide has led Arctic engineering to be the next hot topic in the offshore industry as more offshore production move to cold regions.

As Singapore accounts for about 70 percent of the world's jack-up rig-building market and



two-thirds of the global Floating Production Storage and Offloading platforms market, it is only natural to grow Arctic engineering expertise here.

To help grow this area of expertise is Professor John Dempsey, the first incumbent under the Maritime Technology Professorship (MTP) programme. This programme, a collaboration between the Maritime and Port Authority of Singapore (MPA) and the National University of Singapore (NUS), is intended to boost maritime R&D partnerships between NUS and the maritime industry.

To inject fresh ideas into this collaboration, globally renowned experts in maritime technology are invited to share their know-how. Goh Kwong Heng, MPA's Deputy Director for Research and Technology and Chief Information Officer says, "These visiting professors, armed with their expertise and networks, work with the university to identify key projects and embark in joint research, in the process, taking maritime R&D to the next level."

On the choice of Dempsey, Goh says, "Professor Dempsey is well-established and has made significant

"These visiting professors, armed with their expertise and networks, work with the university to identify key projects and embark in joint research, in the process, taking maritime R&D to the next level."

"Strong government support has helped the maritime industry grow and maritime R&D blossom."

research and contributions in the fields of fracture mechanics and Arctic engineering. He has received the coveted American Society of Civil Engineers (ASCE) Walter L. Huber Civil Engineering Research Prize and served as the associate editor of the ASCE Journal of Cold Regions Engineering. Besides also being a member of the National Academy of Sciences / National Research Council US-USSR Ice Mechanics Committee, he was consultant to major companies such as General Motors, National Energy Board (Canada) and BP America."

Dempsey first got involved with Arctic engineering when he was commissioned to work on the fracture of ice and its influence on offshore structures in the 1980s. Since then, he has never looked back.

Because of his work, he spent nearly two years living on ice in various assignments in both the Arctic and Antarctic.

In Singapore, Dempsey will be working with both the Centre for Offshore Research and Engineering (CORE) of NUS and the offshore and marine engineering sector. Together, they will initiate collaborative R&D programmes and projects and invite industry players, such as the classification societies and design consultants, to participate in joint Arctic engineering projects with NUS.

"This is part of MPA's efforts to promote maritime R&D between tertiary and research institutes and encourage the industry," says Goh.

Dempsey adds that Singapore is making the right moves in ensuring that it has the necessary skills to ride on these opportunities. "In particular, strong government support has helped the maritime industry grow and maritime R&D blossom," he says.

With more than 20 years of theoretical and practical experience, the Professor is certainly equipped to grow Singapore's Arctic engineering knowledge base and expertise by playing a major role in training Singapore's next generation of Arctic specialists. The cold hard fact could be that a Master of Science in Arctic Engineering might soon be one of the hottest programmes around. 📧

*To Serve Human Well-Being And
Create Wealth At The Same Time*



A Leading Asia-Focused Integrated Maritime and Industrial Solutions Group

- Dry Bulk Shipping • Chemical Transportation
- Offshore and Marine Engineering • Industrial Logistics
- Oil & Gas Assets and Services • Consumer Logistics



Hello Helios



In line with wider initiatives to develop the country as the world’s largest bunker fuels port, Singapore welcomes HELIOS TERMINAL, which offers a fully-integrated delivery service

By Chris Davis

Figure this: 18 storage tanks, 448,000 cubic metres of capacity, a jetty capable of berthing two suezmaxes or six 10,000 dwt tankers, and the ability to unload a vessel that is up to 320,000 dwt in 24 hours.

It doesn’t take a mathematician to average all that out into a very impressive storage terminal indeed. Opened in February this year, the multi-purpose Helios Terminal is the flagship terminal

of marine fuel supplier Chemoil Energy. Costing a whopping US\$122 million, the 17,000-hectare titan provides Chemoil’s customers a fully-integrated delivery service.

“Chemoil is able to provide customers with the efficiency and reliability that come from a seamless delivery service,” says Michael Bandy, Chemoil’s chairman and chief executive officer.

The Helios Terminal also offers specialised products and customised term contracts. This flexibility is possible because the one-stop pit stop allows Chemoil to control their fuel sourcing, blending, terminalling and barging operations.

Speaking at the opening ceremony, Singapore’s Minister of Finance and Education Tharman Shanmugaratnam noted that the completion of Helios Terminal signified Chemoil’s commitment to investing in Singapore in the long-term. Since 2006, Chemoil has been listed on Singapore’s SGX Mainboard Stock Exchange.

Bandy agrees: “The terminal is in line with our growth strategy of expanding our



services and markets by focusing on high-volume locations such as Singapore. Not only is Singapore the oil supplier hub of Asia, it is also the world's largest bunkering port and a preferred port of call for many of the world's international shipping lines."

Such a believer is Chemoil in Singapore that the country was one of the first places it set up business in when it decided to operate on an international platform in 2000. Five years later, founder Robert Chandran even moved the company's base and himself to Singapore, relinquishing his US citizenship for a Singaporean passport.

"He was so sold on the future of Singapore's maritime industry," explains Bandy, adding that the late Chandran was an inspirational entrepreneur who led with vision and dynamism to build Chemoil into a leading chemical and oil trading company that specialises in ship fuelling.

Born in India's Mumbai, the man who once aspired to be a doctor but did not make the cut at the University of Madras first made his fortune in

the United States by investing in real estate in the San Francisco Bay Area.

On 7 January this year, about a month before Helios Terminal officially opened its doors, he died from injuries sustained when the helicopter he was travelling in crashed in the Riau province of Indonesia.

Although he did not get to see the satisfaction of his customers at Helios Terminal, Chandran's legacy, says Bandy, is "a strong team of experienced managers and a clear strategy for growth."

And one way forward is to supply products that sustain and improve the environment, such as Chemoil's blended marine fuels that reduce polluting emissions. "Worldwide, the shipping community is under increasing pressure from various organisations to reduce its carbon footprint," says Bandy.

So mark his words and get ready to say hello to the evolution of a range of products and technology solutions employed by the maritime industry. 📧

ABOVE
Michael Bandy,
Chemoil's
chairman and
chief executive
officer

ABOVE LEFT
The Helios
Terminal



New found energy

Without drilling a single oil well, CGGVERITAS's marine seismic surveys help the energy industry keep our lights on

ABOVE
Cameron Astill,
CGGVeritas's
executive vice
president, Asia
Pacific

By Eric J. Brooks

There is a good chance that the natural gas that cooked your dinner was discovered in one of CGGVeritas's countless marine geophysical surveys.

As the majority of land-based oil and gas fields have already been found, maritime services have become an increasingly important part of the petroleum exploration process. Hence the birth of CGGVeritas in 2007 through the merger of France's CGG and America's Veritas,

creating an almost unstoppable force in the field of marine seismic exploration.

“CGG’s reputation was centred on land acquisition and seismic detection,” says Cameron Astill, CGGVeritas’s executive vice president, Asia Pacific, “while Veritas was the leader in seismic data processing and marine surveys. Put the two together and we have the biggest seismic exploration company in the world.”

The merger brought about another important development.

“Veritas had been headquartered in Singapore since 1969 and CGG was in Kuala Lumpur since the early 1970s. After the merger, we consolidated our operations at the Singapore head office,” says Astill.

CGGVeritas commands a world-leading fleet of seismic survey ships that span the seven seas, from India to New Zealand. The consolidated company could have chosen any number of locations in Asia Pacific for their headquarters. However, they chose Singapore.

“Singapore ranks high on our list for operational efficiency – an environment which the Maritime and Port Authority of Singapore (MPA) has had a hand in creating,” says Astill, pointing out that CGGVeritas’s success has always gone hand in hand with establishing reliable business relationships based on high quality services.

The tax exemption grants offered by MPA to registered seismic ships was one of the numerous factors that prompted CGGVeritas to base its headquarters in the city. Other reasons include Singapore’s efficient customs and immigration clearance. This is important, as this means that CGGVeritas is able to get shipments cleared and through customs on the same day.

Further, given the transnational nature of marine seismic surveying, it is essential that expatriates can move in and out of key head-office positions without much red tape. And Singapore’s pro-business policies are nothing if not encouraging. The perfect host, Singapore’s Economic Development Board also helped CGGVeritas find a nice corner in land-scarce

“Singapore ranks high on our list for operational efficiency - an environment which MPA has had a hand in creating.”



LEFT
Rollin Delzer, CGGVeritas’s senior vice-president for marine acquisitions in the Asia Pacific region

Singapore to set up home.

Rollin Delzer, CGGVeritas’s senior vice-president for marine acquisitions in the Asia Pacific region, adds: “Singapore is a key location, because of its high quality dry docks and shipyard repair facilities.”

One can always be assured of the quality of work done in Singapore, says Delzer, and one model industry player has to be Singapore’s Keppel Shipyard, who won the Best Ship Repair Yard in Asia award at the Lloyd’s List Maritime Asia for the third consecutive time this year.

No marine seismic survey worth its salt water is light enough to be transmitted via the Internet. But no matter – Astill is happy to report that CGGVeritas’s office in Singapore has one of the largest computer systems in the region for the production of 3D seismic maps for oil companies, thanks to Singapore’s ever-reliable IT backbone, capable of supporting unusually high traffic volumes.

It could be said that both CGGVeritas and Singapore operate below the line. After all, it is the tirelessly collaborative efforts of firms like CGGVeritas and countries like Singapore that quietly sustain our endless quest to keep our cars moving and electricity humming. ☺

Keeping the faith

For SOCATRA's chief financial officer Laurent Bozzoni, trust is the cornerstone of his business

By Eric J. Brooks

Laurent Bozzoni has serious trust issues. In fact, the chief financial officer of Bordeaux-based French shipping company SOCATRA admits he just spent close to a year sorting one out.

"I've been working on it for months," he says. "It has been challenging, like creating a new company."

He is, of course, talking about the process of creating a Singapore-based shipping industry Trust that would offer investors the opportunity to buy into assets operated by a recognised owner.

According to Bozzoni, it was the "international mindset" of the Maritime and Port Authority of Singapore (MPA) that made such a venture possible.

"Instead of saying, 'This is the way things are and it cannot change,' MPA says, 'Let's see how your project can fit into the framework of our regulations.'"

When it came to picking Singapore for a base, other things fell into place, too. The country's extensive forays into petrochemical manufacturing and trading make it an important link in SOCATRA's global network.

"Instead of saying, 'This is the way things are and it cannot change,' MPA says, 'Let's see how your project can fit into the framework of our regulations.'"




But more than being a mere supply depot, says Bozzoni, Singapore also has the "expertise, business environment, open mind and willingness to do better tomorrow than it did today." Qualities that made him feel this is a place he could, well, trust with his investment.

After all, his business, which was started by his grandfather in 1977, was built on faith. Without the equity to buy his own tankers, the senior Bozzoni decided to go into the storage business by demonstrating to oil majors like Elf and Total just how reliable he was in a good old-fashioned way.

It worked. Soon afterwards, SOCATRA had the means to buy its first 32,000 dwt medium-range tankers, meeting the transport needs of oil moguls like Shell and Chevron-Texaco.

With an expanding tanker trade anchored by solid storage revenues, SOCATRA has grown far beyond its European roots, owning and operating a modern fleet of 6 small tankers and 6 MRs.

"The shipping business is often referred to as a roller-coaster," says Bozzoni. "But, in the future, it will take expertise and reliability to be a long-lasting player. More than a commoditised service, shipping of tomorrow will be a sophisticated product."

We will trust him on that. 

ABOVE
Laurent Bozzoni, chief financial officer, SOCATRA



SOCATRA
www.socatra.com



Greener pastures

If Shell Marine Products CEO ISABELLA LOH feels more than a little green, it is because she walks the talk when it comes to environmentally-friendly ways of doing business

By Saul Symonds

It is tough when you are misunderstood. No, Shell Marine Products CEO Isabella Loh is not talking about her penchant to transform traditional businesses by pushing the envelope. Rather, she is referring to the business of shipping, which happens to be her business since she joined Shell three years ago.

“This particular business needs a lot of understanding (regarding what it does or does not do to the environment),” she says. “The emissions

“The emissions of carbon are less than three percent, but 90 percent of the world’s goods are moved around in ships.”

of carbon are less than three percent, but 90 percent of the world’s goods are moved around in ships.”

Certainly, it all adds up. Chairman of the Singapore Environmental Council and formerly the honcho at an environmental management solutions provider, Loh has been passionately advancing the cause of all things green since she joined Shell.

“We’re developing greener lubricants,” she says. “As importantly, we’re developing technical competencies with customers and engine manufacturers (so as to reduce) fuel consumption of engines and improve fuel efficiency.”

She adds: “I see myself as someone with a track record of transforming traditional businesses, and making them new and sustainable.”

One of her first major tasks at Shell was to relocate the marine product headquarters to Asia.

“We had a choice number of locations,” she recalls, “but after much deliberation and discussions with the Maritime and Port Authority of Singapore (MPA) and the Singapore Economic Development Board, Shell Marine Products settled on Singapore as its new headquarters.”

Why Singapore? For one thing, it has a highly-connected and pro-business port. For another, says Loh, “Singapore has been very supportive of environmental challenges.”

According to her, MPA has shown interest and initiative in addressing a number of environmental concerns. Not only is Singapore’s port one of the

“I see myself as someone with a track record of transforming traditional businesses and making them new and sustainable.”

first in Asia with a double-hull strategy, it is also the first in the world at which Shell will pilot GPRS technology so as to stay connected in real-time.

“MPA formed an IT backbone that helped us make use of GPRS technology to determine when a ship is coming into port,” says Loh. “This ensures that our barges are not idle, and we can reduce our carbon footprint.”

The shipping sector needs to move forward with new and more efficient ways of doing business, says Loh. A strong supporter of green business practices, MPA has been helping Singapore chart the direction of its maritime cluster.

As for Shell, the company that “convinced the shipping industry to move from sperm whale to mineral and synthetic products” in the 1930s is now eyeing even greener pastures. Not only does Shell preach sustainable shipping, says Loh, the company, as operators of its own fleet, also demonstrates these improvements. ☰

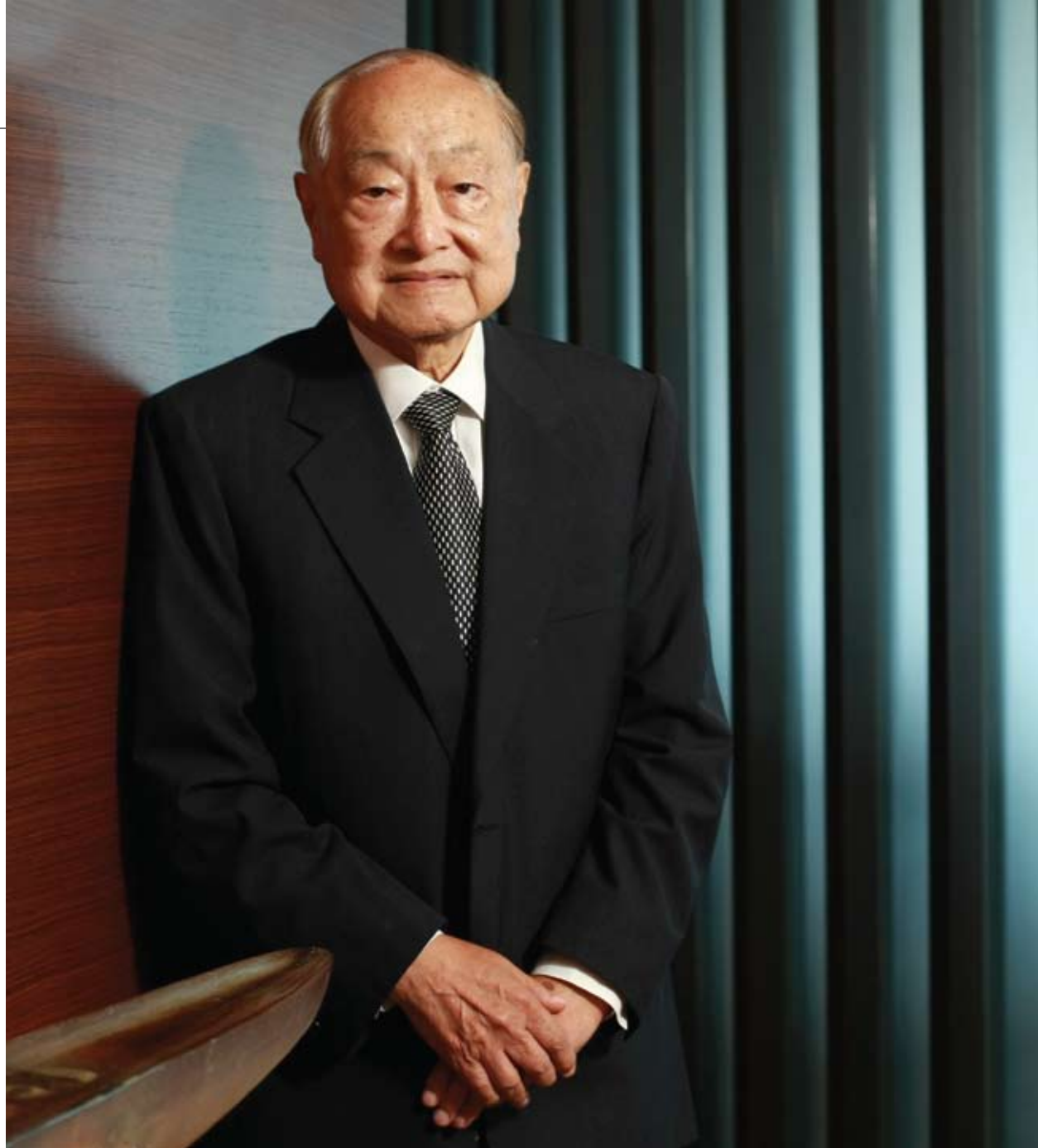


Singapore - Offload your disputes at the world's first port of call

- ★ Independent neutral third-country venue
- ★ Party to New York Convention - Singapore arbitration awards are enforceable in almost any country in the world
- ★ Strong tradition of the rule of law
- ★ Maximum judicial support of arbitration, minimum intervention
- ★ Freedom of choice of counsel in arbitration proceedings
- ★ Competent arbitration professionals - lawyers, arbitrators and experts
- ★ Excellent support facilities and services
- ★ Confidentiality of arbitration proceedings

SINGAPORE CHAMBER OF MARITIME ARBITRATION

3 St Andrew's Road City Hall Singapore 178958
Tel: (65) 6334 1277 Fax: (65) 6334 2942
Email: sheilalim@scma.org.sg
Website: www.scma.org.sg



Man of honour

Among the maritime community, TAN SRI TSAO has been an instrumental player in the rapid growth of Singapore's international maritime hub

By **Saul Symonds**

There are those who pursue fame and fortune with a feverish vengeance. And then there are men like Tan Sri Frank Tsao Wen-King, founder and senior chairman of IMC Group, who has simply been living life the best way he knows how.

Bestowed the Honorary Citizen Award 2007 by President of the Republic of Singapore S R Nathan

in August 2008, Tan Sri Tsao's successful marriage with Singapore began in 1991, when he moved his dry bulk and shipping business from Hong Kong to the Lion City.

"The Singapore government's efficiency and support made it very conducive for the maritime industry to prosper," he explains matter-of-factly. "In the 1980s, IMC Group already had several activities in Singapore and Southeast Asia, and we decided to move our headquarters and dry bulk operations to Singapore in order to have better integration and coordination within the Group's activities."

Further sinking his roots in *Maritime Singapore*, Tan Sri Tsao also provided feedback and assisted the Maritime and Port Authority of Singapore (MPA) in setting up the Approved International Shipping (AIS) Enterprise Scheme, which aims to encourage international ship owners and ship operators to establish operations in Singapore. The AIS scheme has since attracted more than 100 international companies to set up shop in Singapore.

More recently, he played a central role in the establishment of the permanent secretariat of the Asian Shipowners' Forum (ASF) so as to ensure that the interests of Asian ship owners are represented and discussed among international shipping bodies.

"I helped to convince the other members of the ASF to make Singapore its permanent headquarters," he says. "Having the ASF in Singapore is a good boost to Singapore's status as an international maritime centre and, from this, we can make a strong platform to support maritime activities across Asia."

It is the kind of just-do-it attitude that has helped the best businessmen sell more than shoes. Born in China at a time when political turmoil was making mere survival an everyday challenge, a young Tan Sri Tsao did what he had to do.

"My family, not unlike many others, suffered

"The Singapore government's efficiency and support made it very conducive for the maritime industry to prosper."

"Shipping is fascinating as it requires knowledge in a wide variety of fields. It covers a wide spectrum, including areas such as trading, people management, ship operations, capital investments, technical know-how, legal, insurance, and so forth."

hard times," he recalls. "In order to survive, I started a trading business – it was the most feasible thing to do then as it did not require much capital."

Even as the Korean War spurred the expansion of his trading business, it also restricted access to all the shipping routes in China. "I had no choice but to buy a small ship so that we could continue our trading business in Southeast Asia," he says. "With this small ship, I ventured into the shipping arena, and became involved in maritime."

The rest, however, is not quite history.

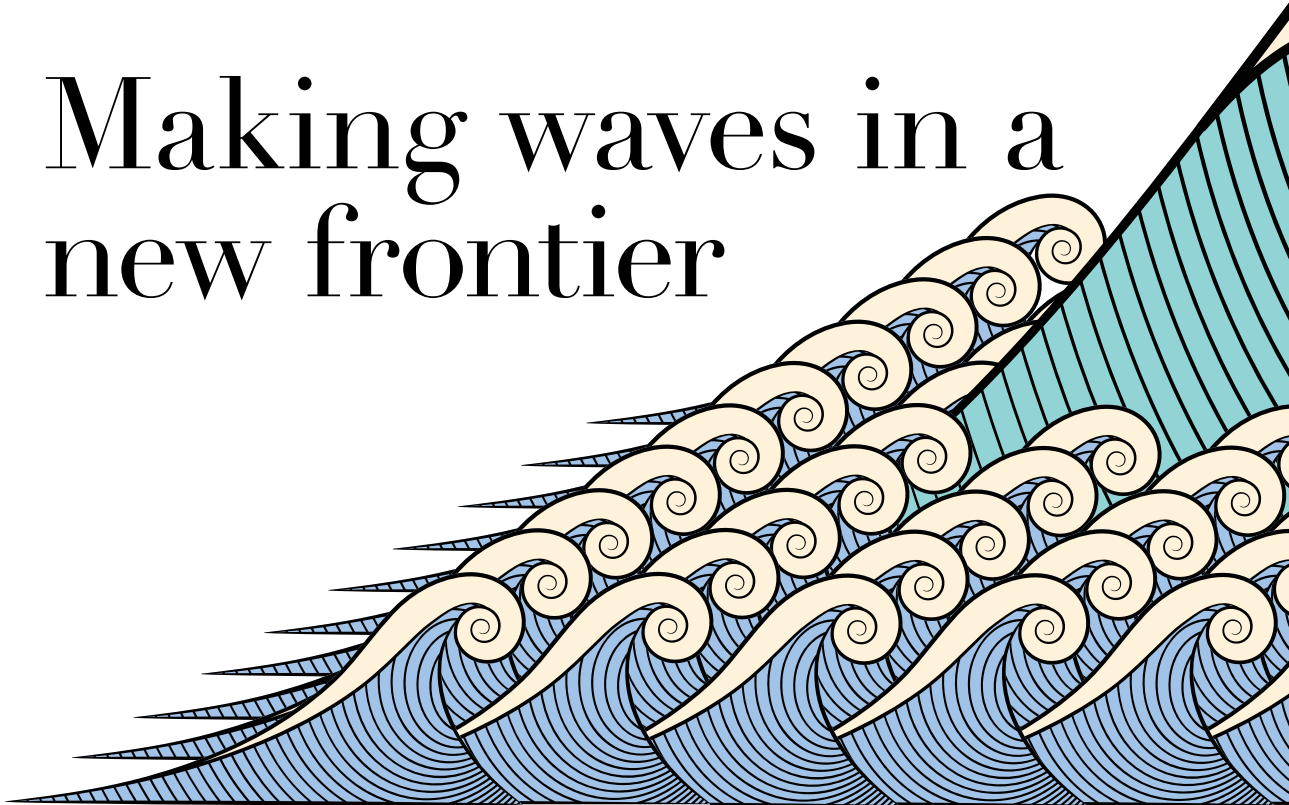
"I have experienced difficult times and faced imposing problems," he says, adding that the years from 1982 to 1987 were truly challenging. "We had no capital, insufficient knowledge, not enough customers, and nobody believed in us."

But through it all, his passion for the shipping industry continued to be as deep as the ocean itself. Currently the chairman for the Centre for Maritime Studies, a joint initiative between the Singapore government and the National University of Singapore, Tan Sri Tsao says his lifelong fascination with maritime can be attributed to its kaleidoscopic nature.

"Shipping is fascinating as it requires knowledge in a wide variety of fields," he maintains. "It covers a wide spectrum, including areas such as trading, people management, ship operations, capital investments, technical know-how, legal, insurance, and so forth."

Tan Sri Tsao, engaging life with both hands and appreciating it as it is – why are we not surprised? 🗨️

Making waves in a new frontier



Asia is a major driving force behind the global maritime industry and Singapore is strategically located in Asia. A panel of top maritime executives examines the development of shipping in the region and Singapore's place in the booming sector

Panellists:

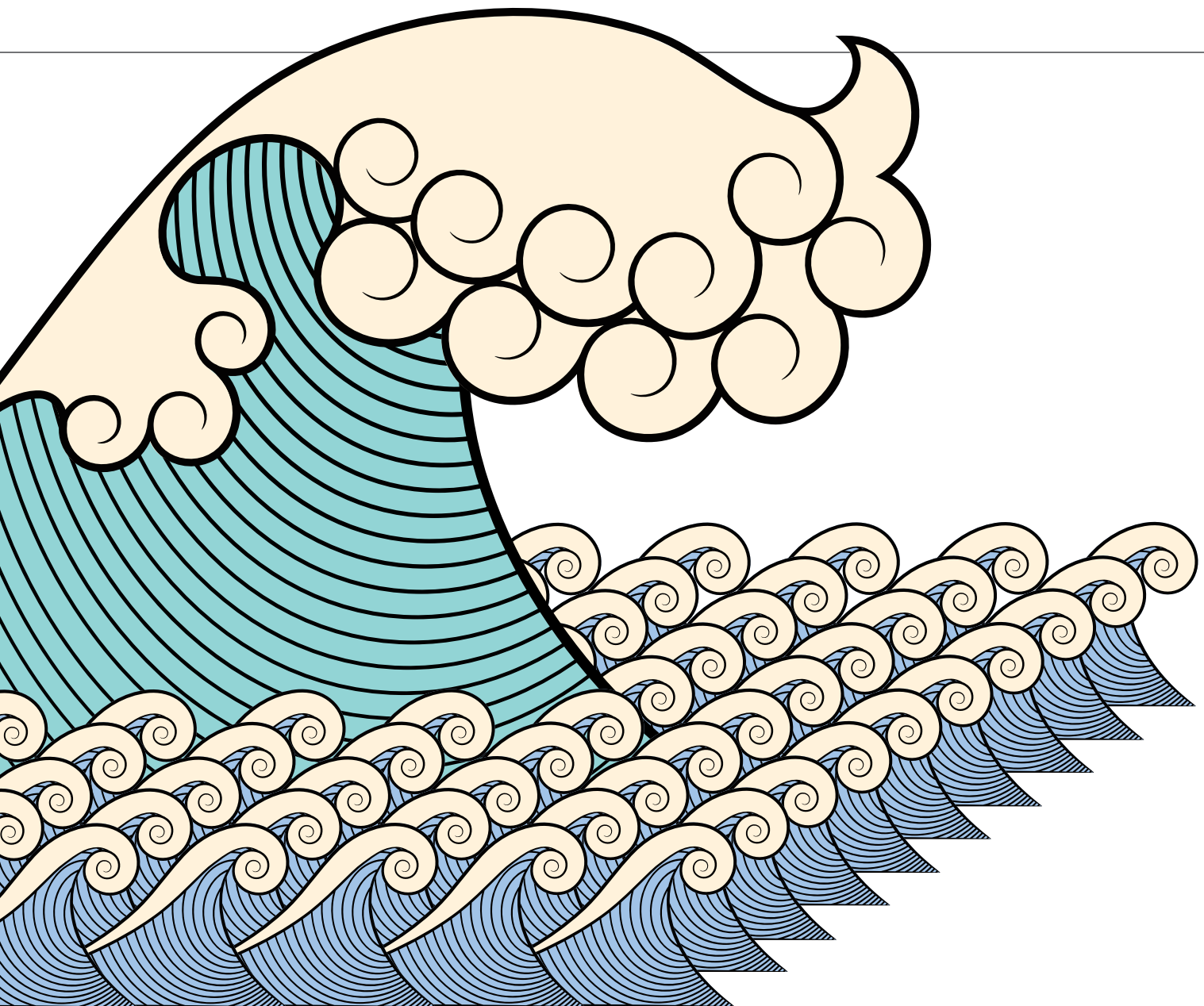
Pek Hak Bin: country president, BP Singapore

Andreas Sohmen-Pao: managing director, BW Shipping Managers

Erik Borgen: regional director, DnB NOR Bank ASA

Wee Beng Geok: associate professor, Division of Strategy, Management and Organisation; director, Asian Business Case Centre, Nanyang Business School, Nanyang Technological University

Colin Fordham: managing director, Thomas Miller (Southeast Asia)



Singapore Nautilus: *Do you see Asia as the new frontier for the maritime industry?*

Erik Borgen: 'Frontier' implies Asia has been under-explored, or that it previously did not have a shipping market. That is obviously not true. Instead, Asia should be viewed as the driving force behind the industry's recent revival and ongoing growth. Many of the world's fastest growth economies and the most significant contributors to global flows are Asian – China, India, the Southeast Asian bloc, and the more developed Asian powerhouses like Korea, Taiwan, Hong Kong and Japan. Obviously, Asian maritime growth will be directly correlated. Half of the world's manufactured goods are generated in Asia – or China specifically, and

behind Asia's manufacturing export phenomena is an equally significant reverse sea trade, as imports of raw materials are needed to feed and power the manufacturing hubs and the rising consumer affluence of densely populated markets like China and India.

Singapore Nautilus: *In your estimate, how big is the Asian shipping industry becoming?*

Erik: Asian shipping companies have grown rapidly in number and fleet size over the past 10 to 15 years. Currently, about 50 per cent of the world's shipping fleet is Asian-owned or controlled, and is growing in tandem with the

TALKING HEADS

(From left)
Colin Fordham, managing director,
Thomas Miller (Southeast Asia)

Andreas Sohmen-Pao, managing
director, BW Shipping Managers

Erik Borgen, regional director,
DnB NOR Bank ASA

Wee Beng Geok, associate
professor, Division of Strategy,
Management and Organisation;
director, Asian Business Case
Centre, Nanyang Business School,
Nanyang Technological University

Pek Hak Bin, country president, BP
Singapore



Asian economies. Some of these companies are now among the world's largest. There are a couple of reasons for this. Asia is a major trading region vis-a-vis the rest of the world, and intra-Asian trade is huge. There is also a natural tendency for nations to control some of their own cargos or ships for economic and strategic reasons.

Andreas Sohmen-Pao: Actually, I think it is dangerous to think too much in regional terms. The maritime industry has always been a global one. After all, the industry's underlying purpose is to connect markets across the world. Asia has for decades been a leading provider of ships to the world, just as international companies have been providing maritime services to Asia. Rapid economic growth in the region will, of course, create additional opportunities for the industry.

Pek Hak Bin: I agree with Erik that growth in shipping will remain concentrated in Asia. The majority of the world's commercial shipyards are in Asia, and these are still busy building larger bulkers, container ships and tankers, despite a substantial increase in material costs. On the human resource front, as the number of maritime academies and officer-training schemes increase across Asia, a growing number of skilled and talented officers will be available to manage internationally-operated fleets. I believe that access to associated services, talent and expertise, along with the right fiscal regime, technological innovations, supply chain management, financial and banking support, are critical success factors

which have helped Singapore and Hong Kong establish themselves as maritime centres.

Colin Fordham: Indeed, the booming economies of Southeast Asia and Greater China have had a profound effect on the maritime industry. The combination of a growing volume of trade and the increased distance over which it is carried has demanded double-digit growth in shipping capacity year after year. The variety of new markets and new producers has required innovation and a pioneering spirit as traditional trade processes have to be adapted for so many new players.

Wee Beng Geok: It is true that global trading patterns have shifted towards Asia, but, in tertiary services, such as financial services and products, ship-broking, marine insurance and ship management, Asia is still very much at the early development stage compared with established centres like London. Substantial growth in this new frontier depends on the emergence of complex webs of relationships and networks which – like London's evolution as the international centre for financial and other tertiary maritime services – requires decades if not centuries to form and sustain. The challenge in growing Asia's maritime services cluster is that conventional approaches to development tend to focus on policies and regulations to direct growth. These approaches assume we can predict which services, which competencies and which strategic positions will be viable and for how long. In a fast-changing environment, however, predictions have very short lives.



Singapore Nautilus: *What were some of the considerations that prompted you to set up office in Singapore? Did the fact that Singapore is a maritime cluster have anything to do with your decision?*

Erik: Singapore sits at a natural crossroads of international trade flows between the East and West. It has a cosmopolitan culture which gels with its status as a trading hub. Already a major gateway and maritime centre, it is the main recipient of new companies, both Western and Asian, who want to set up operations in Asia. DnB Nor has been in Singapore for close to 40 years, and we are seeing substantial growth of the expat community involved in maritime activities.

Colin: Singapore's business values mirror the business values for which Thomas Miller is known and respected. The marine insurance industry requires a business environment that sets high standards, with business values firmly rooted in integrity, and supported by a well-defined regulatory framework and the rule of law. Given our long-standing connection with Singapore over many years and its prominence as a major port, maritime business and financial centre, it was a natural move for Thomas Miller to establish an office here in 1998.

Hak Bin: BP Shipping set up operations in Singapore to support our commodity trading business, which was established in Singapore due to its competitive tax base, pool of talent

and strong government support, among other factors. As our trading business grew, so did our level of shipping activity. At the same time, more and more of our new fleet was operating in Asia, and it became necessary to relocate associated shore-based operations to Singapore from London. Singapore is now a centre for our ship repair and dry-docking activity. We were drawn here by the country's focus on health and safety in the work place, and we bring our ships into Singapore regularly for bunkering. Singapore's maritime cluster also provided many of the marine and human resource skills necessary to deliver a world-class performance and development to our seafaring officers. In August 2007, we decided to set up BP Maritime Services in Singapore to act as the employing company for seafaring officers who operate our international tanker fleet.

Andreas: Given the global and open nature of the industry, maritime players have a broad choice of location. The top two considerations are access to talent and the ability to compete on a level playing field with global competitors. A level playing field means a country has to offer good infrastructure, stable policies and a competitive tax environment. Singapore has so far been excellent on all fronts, with the only concern today being the rapid increase in business costs. In terms of talent, Singapore does not yet have the same depth of maritime expertise as more mature seafaring nations such as the UK, Norway, Greece, but is proactively working to address this through training, and by being open to talent from around the world. 📧

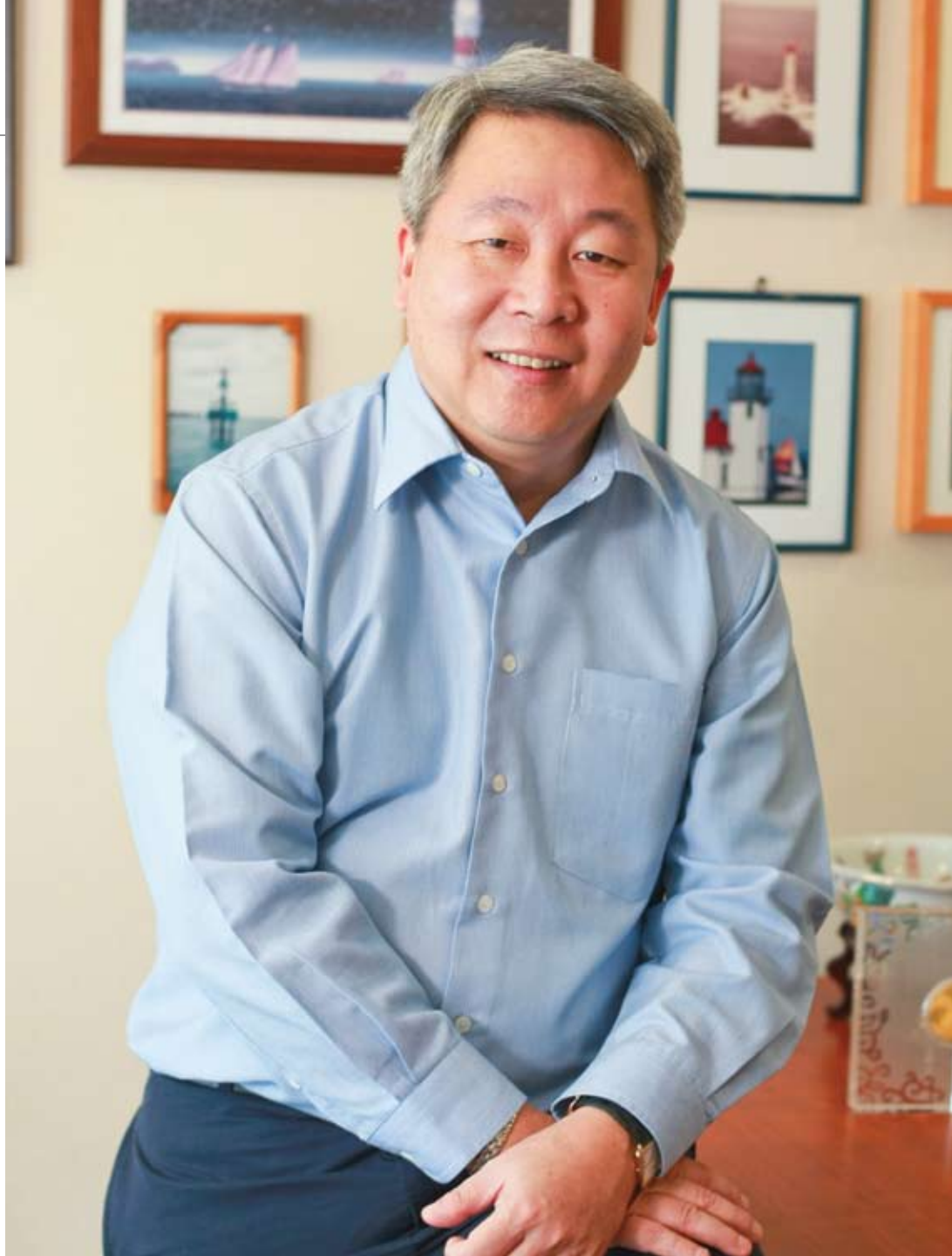


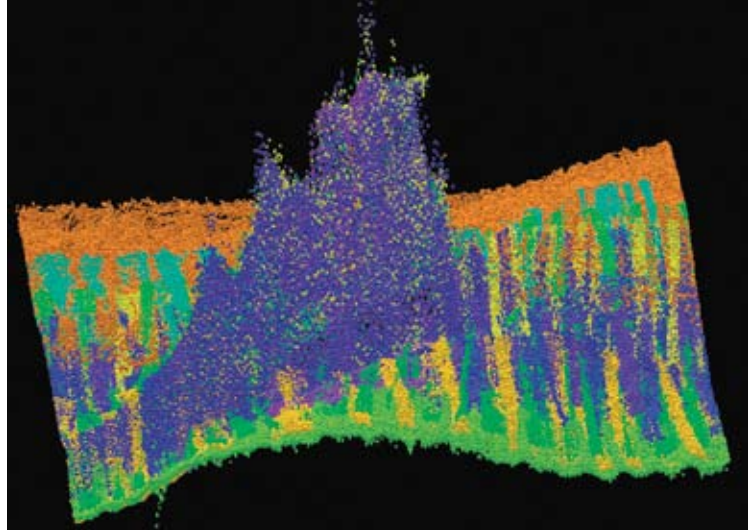
Chart topper

MPA chief hydrographer, PARRY OEI previews “From Lighthouses to Electronic Charts”, an exhibition charting the story of navigation aids

By Eric J. Brooks

Three decades ago, the Maritime and Port Authority of Singapore’s (MPA) chief hydrographer, Parry Oei, probably could not have seen how emerging innovations in IT, satellite or lighting technology would reinvent the way hydrography is done.

Since then, notes Oei, manual sextants have



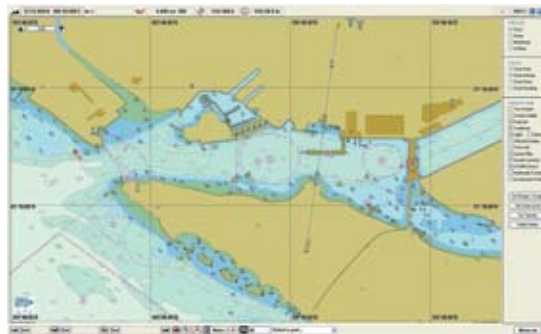
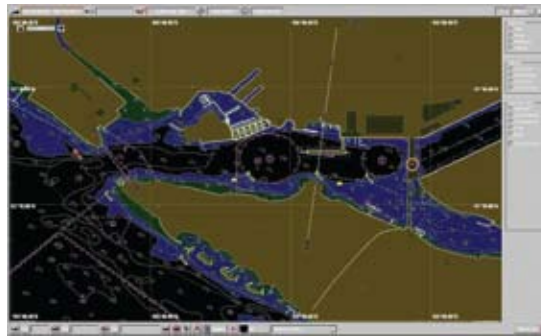
been replaced by the global positioning system, single-beam echo sounders by multiple ones and traditional battery-operated buoys and beacons by solar-powered lighthouses.

Hydrography is the scientific description and analysis of the physical conditions and related characteristics of the sea. Hydrographic surveys map an area of sea and surrounding coastal detail for the primary purpose of navigation and other marine activities.

For Singapore, some of the most dramatic milestones in hydrography include achieving 100 percent coverage of the seabed, moving

“Long before it was available at your friendly Starbucks, wireless technology was being used by MPA to allow instant, real-time updating of ships’ electronic charts as the vessels navigated the Straits of Malacca and Singapore.”

THIS PAGE
(Clockwise from left) A Sextant; multibeam echo sounder picture of a wreck; Pulau Sudong beacon



“MPA’s best-of-breed approach has enabled Singapore to not only remain relevant but to lead the way for fellow ports in East Asia.”

from two-dimensional models to three, and the automation of surveys using computers.

Indeed, under Oei’s leadership, Singapore was soon setting the benchmark in scanning techniques, navigation, warning systems, and the development of an Electronic Chart Display Information System (ECDIS).

“We introduced a host of innovations such as bio-friendly buoy paints, energy-efficient LED buoy lights and solar-powered lighthouses. But nowhere will MPA’s contributions be felt more than in the South China Sea Electronic Chart Navigational Project that will map sea routes in the region,” says Oei.

He adds, “Singapore can take pride in being the first in the world to release Electronic Navigation Charts, or ENCs, back in 1998.”

Unlike paper charts, electronic charts can customise a display to the navigator’s needs. “Intelligence is embedded in the data,” explains Oei. “The navigator can see as much or as little as he wants, but warning systems are still functioning in the background. You can also check the safety of the route from, say, here to Hong Kong, and the chart will automatically highlight navigational hazards.”

In addition, long before it was available at your friendly neighbourhood Starbucks, wireless technology was being used by MPA to allow instant, real-time updating of ships’ electronic charts as the vessels navigated the Straits of

Malacca and Singapore (SOMS).

The world, of course, doesn’t stop here. Freighters, tankers, LNG vessels, container ships and cruise liners keep growing – both in size and number. Navigating through narrow clearances requires precise oceanographic charting, real-time ship monitoring, and dredging SOMS’s moving contours.


Furthermore, with numerous borders criss-crossing Southeast Asian waters, transnational cooperation becomes essential to designing systems that make narrow clearances accessible.

To meet these challenges, a team at MPA hunkers down to work on standardising ENCs. “We need both adequate coverage and coverage at an appropriate scale,” says Oei. “We also need to make sure that the various scales are harmonised in the charts.”

From relying on manual methods that may date as far back as the colonial days to applying new developments and technology, MPA has come a long way in a short time. Its best-of-breed approach, however, has enabled Singapore to not only remain relevant but to lead the way for fellow ports in East Asia. 📡

ABOVE
(Clockwise from left) The Horsburgh Lighthouse; ECDIS night and ECDIS day charts

For more information on the fascinating world of aids to navigation past, present and future, visit MPA’s public exhibition “From Lighthouses to Electronic Charts”, 17-19 October, at VivoCity, Singapore.



Introducing a new way to bunker in Singapore for those who value complete control.

Chemoil now offers a new approach to Singapore.
One company. One supply chain. Total control.

A better way to bunker is here. With the opening of the Helios terminal, Chemoil is changing the way you bunker in Singapore. Now, each and every operation in the supply chain is controlled by the company you trust. This provides you with an unmatched level of consistency, flexibility and choice. The Chemoil marketing team is on call with competitive quotes, twenty-four hours a day, seven days a week. And when you inquire for a bunker quote—you get it immediately. Call Chemoil and experience the benefits of complete control.



chemoil.com

USA | **SAN FRANCISCO** tel 1.415.268.2740 email market@chemoil.com | LATIN AMERICA | **PANAMA** tel 507.265.5070 email panmarketing@chemoil.com
EUROPE | **ROTTERDAM** tel 31.10.292.9933 email eumarketing@chemoil.com | **MONACO** tel 33.61.501.5634 email eumarketing@chemoil.com | **GREECE** tel 30.6944.372302 email grmarketing@chemoil.com | ASIA | **SINGAPORE** tel 65.6536.3974 email spmarketing@chemoil.com | **FUJAIRAH** tel 971.4.282.9912 email fjmarketing@chemoil.com | **SOUTH KOREA** tel 82.2.722.6560 email krmarketing@chemoil.com | **TAIWAN** tel 886.2.2735.7591 email twmarketing@chemoil.com

LOS ANGELES | HOUSTON | GULF OF MEXICO | NEW YORK | PANAMA | ANTWERP | ROTTERDAM | FUJAIRAH | SINGAPORE

As timeless as the sea itself, the nautical theme has graced the world's catwalks ever since clothes became more fashionable and less functional.

Gabrielle Bonheur Chanel, better known as pioneering French fashion icon Coco Chanel, had a huge influence on haute couture nautical fashion. An affair in the 1920s with the Second Duke of Westminster, who adored yachting, led her to adopt wide-legged trousers and flat deck shoes as part of her wardrobe, popularising the look among women from the upper crust.

Fast forward to the present day, and we see Karl Lagerfeld bringing marine motifs to his Spring/Summer 2008 collection. Inspired by molluscs and shells, using both their colours and shapes, his collection gave a new spin to classic Chanel items.

Tommy Hilfiger, himself a yachtsman, has deep nautical elements running through all his collections, and his Spring 2008 collection is no exception. Trench coats are made from canvas sailcloth and blazers come complete with brass buttons. The blazer demonstrates what Hilfiger himself has pointed out on many occasions: the



Tommy Hilfiger's collections have deeply nautical themes



Gaultier's sea inspired designs include patchwork with scuba bodysuit fabrics.

nautical look is very often associated with the dress of the Royal British Navy.

One designer who has made nautical a staple of his collections is Jean-Paul Gaultier. Sailor and ship-themed motifs, particularly anchors, are strong across his men's collections, and even his bust-shaped perfume bottles are clothed in sailor stripes.

For his Spring/Summer 2008 couture collection, Gaultier took his love of the ocean to the next logical step with an "under the sea" theme. The mermaid look brought wet hair, fish scale dresses, and long flowing seaweed and jellyfish-inspired couture to the catwalk. A mermaid bride even made an appearance, complete with fish tail and coral crutches.

A rundown on sailor chic would not be complete without a mention of the pirate-inspired look. Famed British designer Vivienne Westwood's first catwalk show in the 1970s was titled the "Pirate Collection," inspiring a mass adoption of leggings and frilly buccaneer shirts in Britain. It also began the trend of men and women leaving the top two buttons of their shirts open. 📧



"Best Container Terminal Operator - Asia"

(under 1 million teus per annum category)
AFSCA 2008

"Best Emerging Container Terminal Operator - Asia"

AFSCA Awards
2003.2004.2005.2006.2007

Trusted for quality service and efficiency, we are reaching new heights in all these areas.

As always, you can rely on us.



OUR DEDICATION AND COMMITMENT



Reliable Resourceful Responsive

Jurong Port Pte Ltd 37 Jurong Port Road S(619110) Singapore Tel. (65) 6265 0666 Fax. (65) 6265 6614 www.jp.com.sg

THE MARITIME INDUSTRY BRINGING YOU THE WORLD



The global maritime economy is booming and Singapore with its growing status as an International Maritime Centre, is well place for your business needs.

Let Singapore be your first port-of-call to build a greater presence in Asia and the world.

SMF Singapore Maritime Foundation
80 Robinson Road, #19-01, Singapore 068898
Tel: (65) 6325 0225
Fax: (65) 6325 4050
Website: www.smf.com.sg