

SUSTAINABILITY/INTEGRATED REPORT

2019

THE
MARITIME
SINGAPORE

HEARTBEAT

Innovating for the Future



ABOUT THIS REPORT

The sixth edition of the Maritime and Port Authority of Singapore's (MPA's) Sustainability/Integrated Report details MPA's endeavours to build a safe, efficient and sustainable global hub port, as well as develop Singapore into a leading international maritime centre (IMC). The Report also notes MPA's efforts to safeguard Singapore's maritime interests and maintain an influential voice on the global stage. In addition to highlighting MPA's drive to develop Singapore into a maritime knowledge and innovation hub, the Report also reflects MPA's initiatives to grow a quality maritime workforce and build a strong Maritime Singapore identity. Additionally, the 2019 edition of MPA's Sustainability/Integrated Report casts a spotlight on MPA's culture of excellence and the strong partnerships it has built with maritime stakeholders and public agencies. The Report concludes with a chapter that features MPA as a choice employer.

The MPA Sustainability/Integrated Report 2019 is prepared in accordance with the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) based on the Comprehensive option. It is also aligned with the United Nations Sustainable Development Goals (UN SDGs) and the principle-based International Integrated Reporting <IR> Framework issued by the International Integrated Reporting Council.

MPA's Sustainability Report and its Financial Report are published separately. They cover the material information on MPA's operations in the financial year between 1 January 2019 and 31 December 2019. Together, the two Reports constitute the 2019 edition of MPA's Integrated Report.

For feedback and enquiries on this Report, please reach out to Mr Stefan Tan at Stefan_Tan@mpa.gov.sg.

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CHAIRMAN'S MESSAGE

In 2019, Maritime Singapore held steadfast amidst a challenging global outlook marked by trade protectionism, technology disruptions and intense regional competition. Despite sluggish trade growth, Singapore's maritime industry continued to perform well. Singapore maintained its lead as the top international maritime centre in global benchmarking studies such as the Xinhua-Baltic International Shipping Centre Development Index and the Leading Maritime Capitals of the World Report.

Singapore remains attractive as an Asian base for shipowners and operators. The Singapore Registry of Ships stood as the fifth largest in the world, recording 97.3 million gross tonnage in 2019. More than 150 international shipping groups across diverse sectors such as containers, dry bulk and tankers as well as offshore and LNG shipping have set up their presence in Singapore. Together, they generate local business spending of over S\$3.5 billion in 2019. In addition, Singapore continued to make steady progress in building up a comprehensive pool of maritime service providers in domains such as shipbroking, marine insurance, maritime law and arbitration, and ship financing.

As a key platform driven by MPA to profile Singapore's vibrant maritime ecosystem to the public and the global maritime community, Singapore Maritime Week (SMW) has been attracting an increasing number of participants since its 2006 inception. In 2019, over 50,000 participants attended the 36 SMW business, networking and public outreach events, which focused on the theme of 'Driving Connectivity, Innovation and Talent'. A distinctive feature of SMW 2019 was the inclusion of events that appealed to participants from outside the maritime industry. In addition to public outreach efforts centred on the SMW 2019 Exhibition (Bicentennial Edition), the highlights of SMW 2019 included the fourth Singapore Maritime Technology Conference, the 13th Singapore Maritime Lecture and the seventh edition of Sea Asia.

To enhance Singapore's competitiveness, MPA seeks to grow the capabilities of the maritime workforce. MPA collaborated with unions, institutes of higher learning, public agencies and training providers in 2019 to offer a diverse suite of maritime education and training programmes that are relevant to the needs of the industry. For instance, MPA worked closely with Nanyang Technological University and Singapore Management University to review the maritime programmes they offer. MPA also cooperated with SkillsFuture Singapore (SSG) and the Institute of Technical



Education to develop Work-Study Post-Diplomas that not only prepare graduates for maritime careers, but also help in-service employees deepen their knowledge and skills. In addition, MPA rolled out the Sea Transport Professional Conversion Programme in partnership with Workforce Singapore and SSG to facilitate the entry of mid-career professionals into growth areas of the maritime sector. In 2019, there were over 6,800 locals who underwent training and reskilling with support from MPA's Maritime Cluster Fund (Manpower Development).

MPA is highly committed to building a future-ready maritime workforce. In 2019, MPA conducted the fourth Singapore Maritime Cluster Manpower Study with the objectives of examining the benefits and compensation trends in the maritime sector, enhancing the Sea Transport Skills Framework and understanding the impact of future trends on the maritime workforce. MPA also collaborated with Singapore Polytechnic to assist maritime companies adopt human resource (HR) practices that support the development of a future-ready workforce. To translate workforce transformation strategies into action, MPA and the Singapore Maritime Foundation worked with a network of more than 20 chief HR officers represented in the Circle of HR InnOvators network to champion the development of HR capabilities in their organisations and promote HR innovation in the maritime sector.

In addition, MPA takes a proactive approach in building a steady pipeline of local maritime talents. Besides working with maritime companies and unions to offer the Global Internship Award and the Tripartite Maritime Scholarship to outstanding students, MPA reached out to the young through programmes including the Singapore Maritime Dialogue and the MPA Learning Journeys. Running new programmes in 2019 such as Singapore Maritime Trail 3, MPA Maritime Bus and Bazaar by the Pier, MPA also engaged the public and cultivated their interest in maritime professions in a fun, meaningful and interactive way. In 2019, the Singapore Maritime Gallery ran new initiatives such as the Maritime Nation Forum 2019, Changing Exhibition: 'Sampan Girl Smiles' and the Imagine Ocean Hackathon to grow awareness of Singapore's vibrant maritime industry.

On the global governance front, MPA continued to contribute actively to discussions at the International Maritime Organization (IMO). It spearheaded Singapore's 14th

successful bid for re-election into the IMO Council in 2019. MPA presently supports Singapore's Vice-Chairmanship of the IMO's Sub-Committee on Human Element, Training and Watchkeeping and the country's four-year term as an elected Council Member of the International Association of Marine Aids to Navigation and Lighthouse Authorities.

In addition, MPA supported Singapore's Chairmanship of the ASEAN Maritime Transport Working Group from 2018 to 2019, and worked with ASEAN Member States, dialogue partners and the shipping community on advancing maritime transport initiatives under the Kuala Lumpur Transport Strategic Plan 2016-2025.

Building on Singapore's standing as a maritime knowledge hub and a thought leader in the maritime domain, MPA continued to share its knowledge and experience with the international community. In 2019, MPA Academy conducted the Port Management Programme, the Maritime Public Leaders' Programme and the Advanced Maritime Leaders' Programme while supporting the training needs of the IMO in enhancing the capabilities of developing nations in maritime policymaking. These programmes serve as an avenue for senior maritime leaders to share best practices, gain policymaking insights and cooperate on a global level. MPA Academy also collaborated with the World Maritime University (WMU) in 2019 on initiatives such as supporting the WMU-Koji Sekimizu PhD Fellowship on Maritime Governance and enhancing cooperation on leadership training and capacity building for the international maritime community.

The journey to build a strong Maritime Singapore continues into 2020. MPA will forge ahead to grow Singapore's attractiveness as a maritime hub, invest in industry capabilities and advance the nation's maritime interests to stay ahead of the competition. It is the forward-thinking character, as well as the cohesiveness and resilience among industry partners, unions and public agencies that will continue to be the driving force behind the success of Maritime Singapore.

Niam Chiang Meng

Chairman
Maritime and Port Authority of Singapore

CHIEF EXECUTIVE'S MESSAGE



2019 marked several milestones for MPA.

The construction of the next-generation container port made significant progress in 2019. The final caisson was installed for the reclamation of Tuas Terminal Phase 1. MPA also began reclamation works for Tuas Terminal Phase 2. When operational, Phase 2 will add another 21 berths with an annual handling capacity of up to 21 million twenty-foot equivalent units. Besides adopting technological innovations that pushed the frontiers of engineering, MPA employed sustainable solutions during the land reclamation. Moving forward, Tuas Port will be situated within a complementary supply chain ecosystem comprising warehouses, container depots and factories to facilitate the efficient flow of cargo. High growth industries that benefit from close proximity to Tuas Port will also be situated in the vicinity of the port.

Despite weaker-than-expected global economic conditions in 2019, Singapore's maritime industry stood resilient. Singapore retained its position as the top bunkering hub with a bunker sales volume of 47.5 million tonnes. Amongst various indicators, vessel arrival tonnage and container throughput grew by 2.2% and 1.6% respectively from 2018. MPA remains committed to investing in future capacity and building up the industry's capabilities to stay ahead of the competition.

Named the "Best Seaport in Asia" for the 31st time at the 2019 Asia Freight, Logistics and Supply Chain Awards, the Port of Singapore continued to pursue means of enhancing service quality for its customers. Besides making its services at the One Stop Document Centre available via e-applications on Marinet, MPA also developed innovative ways to improve port efficiency. In October 2019, MPA launched digitalPORT@SG™, which streamlines vessel, immigration and port health clearances across multiple agencies into a single application. In the next phase of development, digitalPORT@SG™ will facilitate just-in-time operations for optimal vessel passage planning at the Port of Singapore. digitalPORT@SG™ is envisioned to become a major node under MPA's digitalOCEANS™ strategy of enabling seamless port-to-port connectivity, effective information exchange and efficient transactions across the global maritime transport network.

As a responsible maritime nation, Singapore also promotes the environmental sustainability of the maritime industry. Notably, MPA developed a comprehensive approach to prepare the industry for the International Maritime Organization 2020 fuel oil sulphur limit. MPA provided technical guidance to industry stakeholders, worked closely with oil majors and bunker suppliers in

ensuring adequate supply of compliant fuel, and engaged stakeholders regularly to receive feedback and offer advice on issues of compliance. As a champion of maritime sustainability, MPA also developed the first sector-specific Maritime Sustainability Reporting Guide, which reaches out to maritime businesses on environmental and social impact management. The Guide provides a practical framework for developing a maritime sustainability report.

To reduce the impact of shipping on the environment, MPA enhanced the Maritime Singapore Green Initiative with a new focus on decarbonisation. Its Green Ship Programme and Green Port Programme offer incentives to encourage the use of green fuels like Liquefied Natural Gas. Additionally, MPA introduced the Green Energy and Technology Programme that focuses on pilot trials and new technology research for decarbonisation and alternate fuels. Besides collaborating with International Coastal Cleanup Singapore on organising Marine Clean-Up Day 2019, MPA also embarked on a partnership with Our Singapore Reefs to promote marine conservation in Singapore. Moving forward, MPA will launch the Maritime Singapore Decarbonisation Blueprint 2050, which will chart out strategies to achieve a sustainable Maritime Singapore.

In driving the next phase of industry transformation, MPA has forged new partnerships with public agencies, industry associations and maritime companies to drive digitalisation and grow a vibrant maritime innovation ecosystem in Singapore. On top of developing the Sea Transport Industry Digital Plan, MPA collaborated with the Singapore Maritime Institute to refresh the Singapore R&D Roadmap 2030: Maritime Transformation, which aims to deepen Singapore's maritime R&D capabilities, as well as align public and private sector research efforts with the needs of the industry. MPA also undertook several initiatives in 2019 to create a collaborative and enabling environment for innovation. These initiatives included the Circles of Digital and HR InnOvators Network, Smart Port Challenge 2019 and the Maritime Innovation Lab. The Maritime Innovation Lab creates an environment to facilitate the co-creation and test-bedding of solutions such as marine drones and autonomous vessels. MPA also worked with SEEDS Capital to launch a Call-For-Partnership to identify suitable investors who would jointly invest in the maritime technology sector under the Startup SG Equity scheme.

Additionally, MPA developed digital platforms to facilitate R&D in the maritime domain. It launched the Singapore Maritime Data Hub in 2019, becoming the world's first port authority to establish an open data-sharing platform to facilitate the test-bedding and piloting of innovative solutions. Together with 11 other public agencies and the National University of Singapore's Tropical Marine Science Institute, MPA is also developing GeoSpace-Sea, a new national marine spatial data infrastructure that harmonises Singapore's marine and coastal geospatial data from a variety of sources. When fully developed, GeoSpace-Sea will provide authoritative geospatial data for port, marine and coastal planning, marine science R&D, marine conservation and climate change adaptation.

As the industry undergoes digital transformation, MPA proactively ramped up its capacity to guard against cyberattacks in the maritime sector. MPA launched the Maritime Cybersecurity Operations Centre that carries out round-the-clock monitoring, early detection and analysis, and response to cyberattacks on maritime infrastructure. In recognising the transboundary nature of cyberattacks, MPA also tabled a "Port Authorities Chief Information Officer Cybersecurity Network" at Port Authorities Roundtable 2019. The proposed network will enhance cybersecurity awareness in the maritime sector and facilitate early sharing of cyberattack information to manage cyber threats.

With innovation serving as a critical component of the transformation journey for Maritime Singapore, MPA was honoured to receive the Innovation Excellence Award in 2019. The award affirmed MPA's innovation capabilities and its investments in innovation to drive industry transformation. More importantly, the award was testament to the robust partnerships MPA had forged with stakeholders including port operators, industry associations, tertiary institutes and unions in driving industry transformation.

MPA's achievements were only possible because of the strong support we received from all stakeholders. I would like to express my sincere gratitude to everyone who worked closely with us and remained committed to the growth and success of Maritime Singapore. With your enduring support, I am confident that MPA's programmes and initiatives will continue to sharpen the competitive edge of Maritime Singapore as we march onwards in our transformation journey together.

Quah Ley Hoon
Chief Executive
Maritime and Port Authority of Singapore



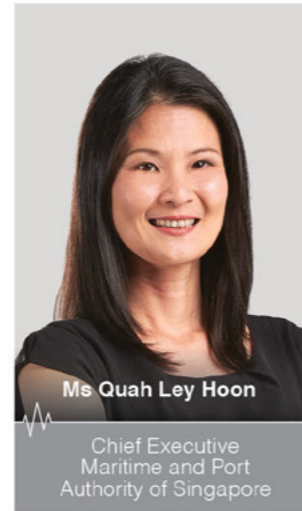
BOARD OF DIRECTORS

(As at 31 December 2019)



Mr Niam Chiang Meng

Chairman
Maritime and Port Authority of Singapore



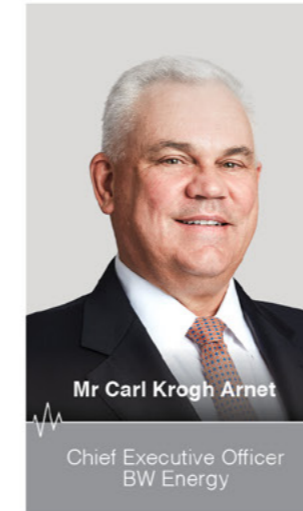
Ms Quah Ley Hoon

Chief Executive
Maritime and Port
Authority of Singapore



BG(NS) Ishak Ismail

Regional Director
Business Development (APAC)
BAE Systems Hägglunds AB



Mr Carl Krogh Arnet

Chief Executive Officer
BW Energy



Dr Vincent Lien

Director
Wah Hin & Company Pte Ltd



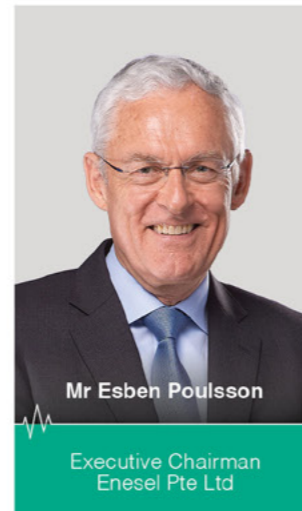
Mr Luke Goh

Deputy Secretary (Trade)
Ministry of Trade
and Industry



Mr Kam Soon Huat

President
& Chief Operating Officer
Singapore Organisation
of Seamen



Mr Esben Poulsen

Executive Chairman
Enesol Pte Ltd



Mr Teo Choo Wee

Executive Director
Fleet Division Pacific
International Lines (Pte) Ltd



Mr Chris Ong Leng Yeow

Chief Executive Officer &
Managing Director (Offshore)
Keppel Offshore and Marine



Mrs Quek Bin Hwee

Director
The HongKong and Shanghai
Banking Corporation Limited



RADM Lew Chuen Hong

Chief of Navy
Republic of Singapore Navy



Mr Walter Fernandez

Editor-In-Chief
MediaCorp Pte Ltd



Mr Chan Cheow Hoe

Deputy Chief Executive
Government Technology
Agency of Singapore
and Government Chief
Digital Technology Officer
Smart Nation and Digital
Government Office



Ms Caroline Yang

President
Singapore Shipping Association



Mr Han Kok Juan

Deputy Secretary
(Hub Strategy)
Ministry of Transport

BOARD COMMITTEES

(As at 31 December 2019)

Audit Review Committee

Chairman

Dr Vincent Lien

Members

Mr Carl Krogh Arnet
Ms Caroline Yang
RADM Lew Chuen Hong
Mr Luke Goh
Mrs Quek Bin Hwee

Secretary

Head (Internal Audit)

Data and Cybersecurity Committee

Chairman

Mr Niam Chiang Meng

Members

Mr Chan Cheow Hoe
Mr Chris Ong Leng Yeow
Ms Quah Ley Hoon
Mr Teo Choo Wee

Infocomm Media Development Authority

Ms Aileen Chia

Secretary

Senior Director (Operations
Technology)

Investment Committee

Chairman

Mr Niam Chiang Meng

Members

Mr Chris Ong Leng Yeow
Mr Luke Goh
Ms Quah Ley Hoon
Mrs Quek Bin Hwee
Dr Vincent Lien

Secretary

Director (Finance, Procurement
& Admin)

MINT Fund Steering Committee

Chairman

BG(NS) Ishak Ismail

Members

Mr Carl Krogh Arnet
Mr Esben Poulsen
Mr Han Kok Juan
RADM Lew Chuen Hong
Ms Quah Ley Hoon

Industry Representative

Prof Lui Pao Chuen
Advisor
National Research Foundation

Secretary

Senior Director (Innovation,
Technology & Talent
Development)

Registration Committee

Chairman

BG(NS) Ishak Ismail

Members

Mr Kam Soon Huat
Mr Luke Goh
Mr Teo Choo Wee

Secretary

Director (Shipping)

Senior Personnel Board

Chairman

Mr Niam Chiang Meng

Members

BG(NS) Ishak Ismail
Ms Quah Ley Hoon
Mrs Quek Bin Hwee

Secretary

Senior Director (Human Resource)

Welfare Committee for Seafarers

Chairman

Mr Kam Soon Huat

Members

Mr Esben Poulsen
Mr Teo Choo Wee
Mr Walter Fernandez

Singapore Shipping Association

Chairman

Capt Deepak Arora

Deputy General Manager
Maritime Human Resources
NYK Shipmanagement Pte Ltd

PSA Corporation

Mr Adrian Sim
Assistant Vice President
Pasir Panjang Terminal

Jurong Port Pte Ltd

Mr Mohanaveel s/o Veerappa
Senior Manager
Cement Division

Seafarers' Missions

Mr Toh Soon Kok
Port Chaplain
The Mission to Seafarers
Singapore

Rev Sussie Nygaard Foged
Port Chaplain
Danish Seamen's Church

MPA

Senior Director (Engineering &
Project Management)
Director (Shipping)

Secretary

Deputy Director (Shipping 2)



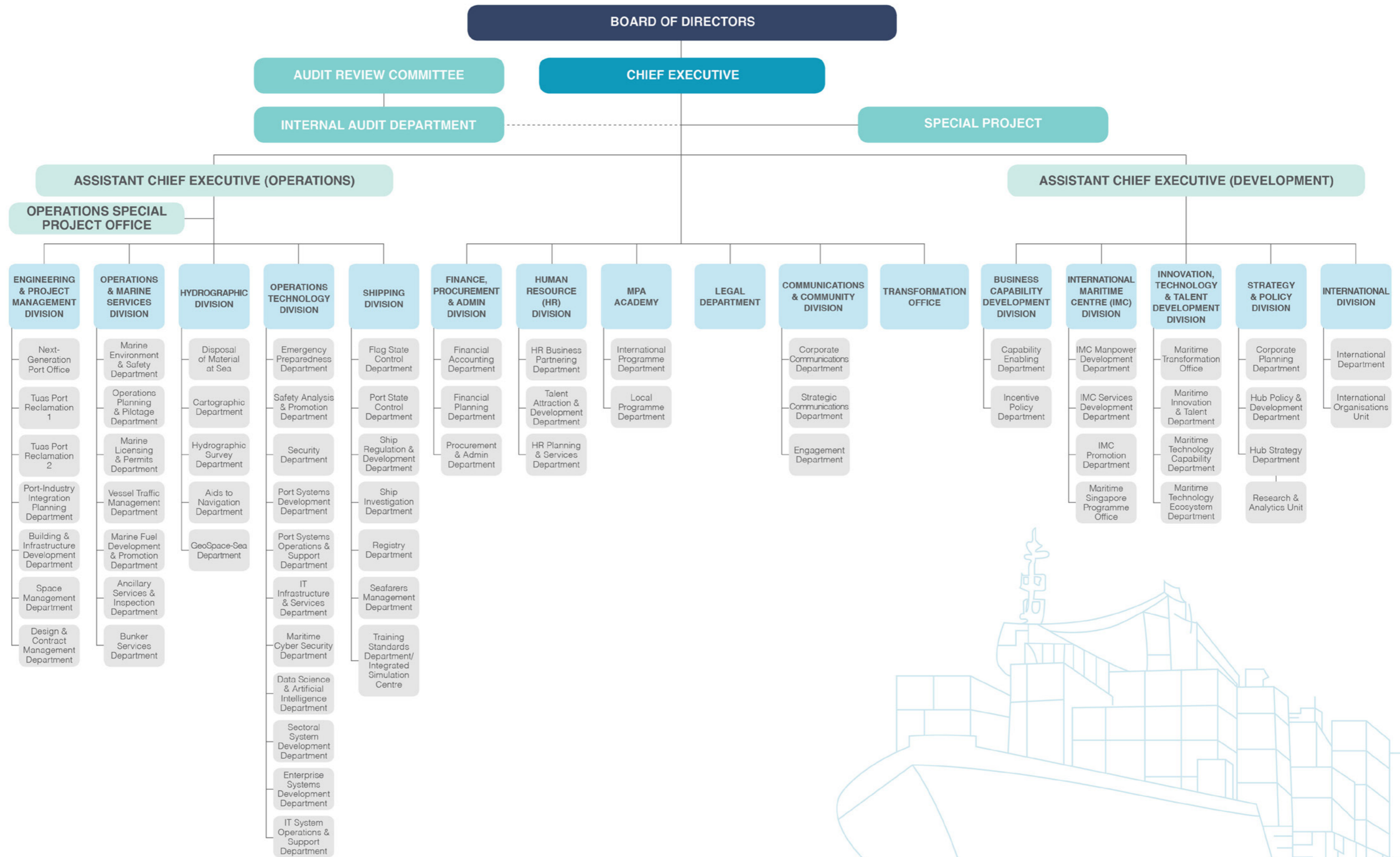
SENIOR MANAGEMENT

- | | | | |
|--|--|--|--|
| 01 Ms Cindy Sim
Director, Finance, Procurement & Admin | 07 Ms Tan Beng Tee
Assistant Chief Executive (Development) | 12 Ms Quah Ley Hoon
Chief Executive | 17 Captain M Segar
Assistant Chief Executive (Operations) |
| 02 Ms Caroline Goh
Director, Business Capability Development | 08 Ms Tan Woei Tyng
Director, International Maritime Centre | 13 Er Tham Wai Wah
Senior Director, Engineering & Project Management/ Chief Engineer/ Chief Sustainability Officer | 18 Ms Caitlin Fua
Director, Communications & Community |
| 03 Mr Thai Low Ying-Huang
Chief Hydrographer | 09 Mr Goh Chung Hun
Director, Shipping/ Director, Marine | 14 Captain Daknashamoorthy Ganasen
Senior Director, Operations & Marine Services | 19 Mr Tan Cheng Peng
Director, Special Project |
| 04 Captain Kevin Wong
Port Master | 10 Ms Bernice Yeoh
Senior Director, Strategy & Policy | 15 Mr David Foo
Senior Director, Operations Technology | 20 Ms Angela Png
Director, International (until 31 December 2019)/
General Counsel (w.e.f 1 January 2020) |
| 05 Ms Ong Seok Bin
Senior Director, Human Resource | 11 Mr Tan Hoe Soon
Senior Director, Communications, International &
Legal/ Chief Transformation Officer | 16 Mr Tan Suan Jow
Dean of MPA Academy | 21 Mr Benjamin Wong
Acting Director, International (w.e.f 1 January 2020) |
| 06 Mr Kenneth Lim
Senior Director, Innovation, Technology & Talent Development/ Chief Technology Officer | | | |





ORGANISATION STRUCTURE



ABOUT MPA

MPA was established on 2 February 1996 as a statutory board under the Ministry of Transport.

Our Vision

A leading maritime agency driving Singapore's global maritime aspirations.

Our Mission

To develop and promote Singapore as a premier global hub port and an international maritime centre, and to advance and safeguard Singapore's strategic maritime interests.

MPA works closely with industry partners and public agencies to enhance the safety, security and environmental protection of Singapore's port waters. In addition to facilitating port operations and growth, MPA drives the expansion of Singapore's maritime ancillary services cluster while promoting maritime R&D and manpower development.

MPA undertakes the roles of a Port Authority, a Port Regulator, a Port Planner, an IMC Champion and a National Maritime Representative.

Port Authority

In addition to managing vessel traffic, MPA promotes safety, efficiency and sustainability in the Port of Singapore.

IMC Champion

MPA grows a vibrant ecosystem of maritime services by maintaining a competitive and pro-business environment. It promotes maritime R&D and drives the manpower development of Singapore's maritime workforce.

Port Regulator

MPA regulates and licenses port facilities and marine services. It ensures quality pilotage, towage and bunkering services for the smooth running of port operations.

National Maritime Representative

MPA advances Singapore's maritime interests by building strong relations with the international maritime community. It ensures that critical sea lines of communication remain open and secure.

Port Planner

MPA is responsible for the optimal use of sea space and waterfront land to meet the needs of Singapore's future. It is developing the next-generation Tuas Port.

For more information, please visit MPA's corporate website at www.mpa.gov.sg.

ABOUT MARITIME SINGAPORE



**MARITIME
SINGAPORE**

The Maritime Singapore logo is a symbolic representation of the local maritime ecosystem and an identity that unifies Singapore's maritime industry. It embodies the vital, versatile and resilient character of Maritime Singapore.

Maritime Singapore is a key economic sector that contributes about **7%** of Singapore's Gross Domestic Product. It comprises more than **5,000** maritime establishments.

Today, the Singapore Registry of Ships is among the **top 5** largest ship registries in the world, with over **4,400** Singapore-registered vessels.



In addition, Singapore was crowned the **'Best Seaport in Asia'** and named the **'Best Green Seaport'** at the 2019 Asian Freight, Logistics and Supply Chain Awards.

Singapore is well-connected to **600** ports in over **120** countries. Annually, more than **130,000** ships call at Singapore. At any one time, there are about **1,000** vessels in the Port of Singapore. Every **2 to 3** minutes, a ship arrives or leaves the country.

In 2019, Singapore was ranked the

TOP maritime nation and global shipping centre

in the Leading Maritime Capitals of the World Report and the Xinhua-Baltic International Shipping Centre Development Index respectively.





2019 PERFORMANCE SUMMARY

VESSEL ARRIVAL TONNAGE

(billion gross tonnes)



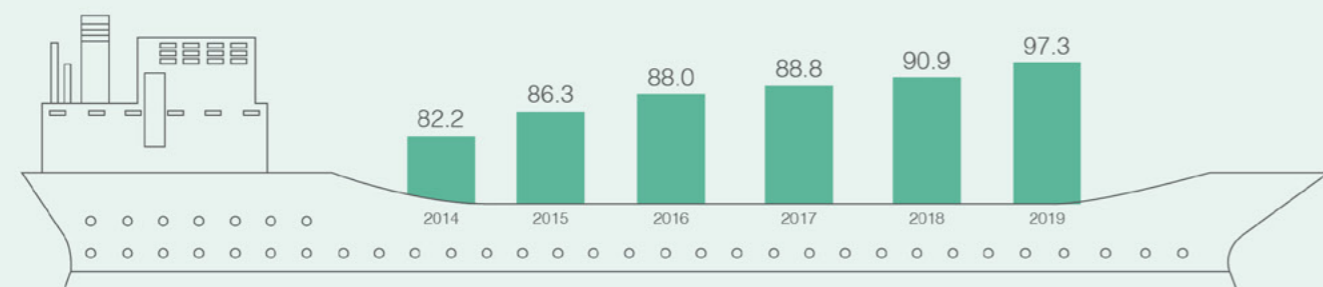
BUNKER SALES VOLUME

(million tonnes)



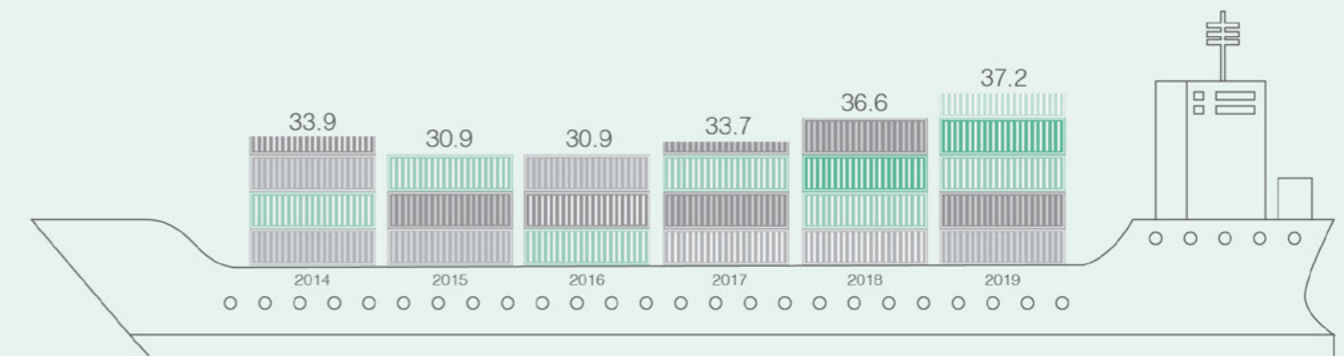
SINGAPORE REGISTRY OF SHIPS

(million gross tonnes)



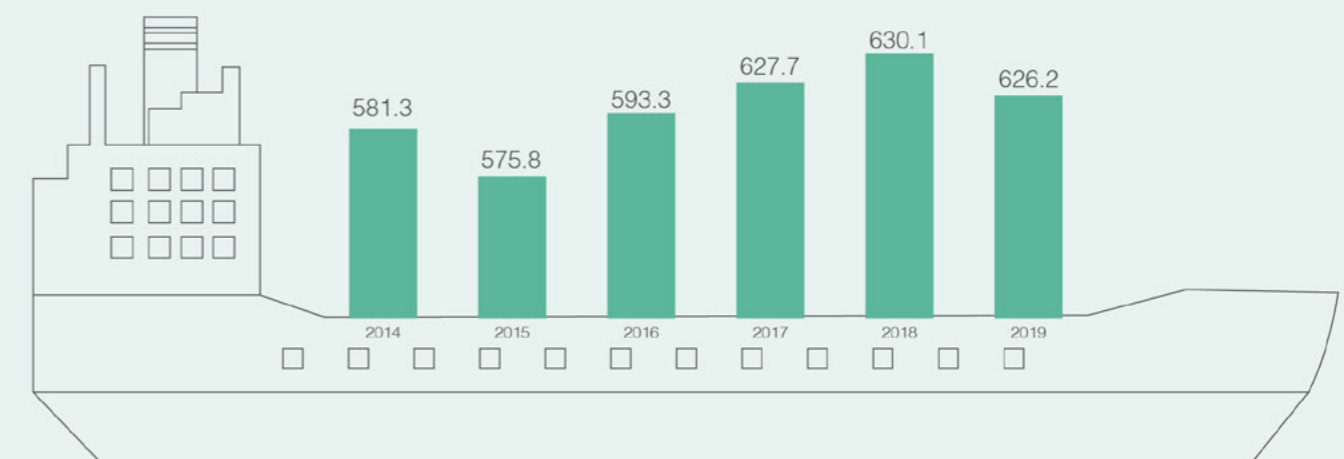
CONTAINER THROUGHPUT

(million TEUs)



CARGO THROUGHPUT

(million tonnes)





KEY MATERIAL ISSUES

In addition to the application of AA1000 AccountAbility Principles Standard, MPA adopts GRI Standards and the <IR> Framework to identify and determine key sustainability issues material to MPA and its stakeholders. In aligning the Sustainability Report to the UN SDGs, MPA presents its plans and contributions to the 2030 Agenda for Sustainable Development.



SAFE, EFFICIENT AND SUSTAINABLE SHIPPING

This material issue addresses the importance and impact of MPA's role as a driving force behind Singapore's maritime developments and aspirations. In addition to facilitating port operations, MPA works closely with industry partners and public agencies to enhance safety, security and environmental protection in Singapore's port waters. It uses its influence to drive positive change in the industry.



ECONOMIC CONTRIBUTION

This material issue addresses the importance and impact of MPA's contributions to Singapore's economy. The Sea Transport Industry Transformation Map lays out MPA's blueprint to build connectivity with complementary maritime clusters and strengthen linkages between the sea transport sector and adjacent industries. It also highlights MPA's strategies to develop a future-ready maritime workforce and drive growth through innovation and productivity enhancements.



INTERNATIONAL SUPPORT AND COMMUNITY ENGAGEMENT

This material issue addresses the importance and impact of building strong local and international partnerships. MPA engages local communities in a meaningful way while strengthening its partnerships with stakeholders in the international maritime community.



FINANCIAL SUSTAINABILITY

This material issue addresses the importance and impact of MPA's economic performance. As a self-funded statutory board, maintaining a competitive business and a sustainable revenue is critical to MPA's long-term financial viability.



ENVIRONMENTAL SUSTAINABILITY

This material issue addresses the importance and impact of MPA's operations on the environment by examining MPA's energy and water consumption, carbon emissions and waste generation.



OUR PEOPLE AND CULTURE

This material issue addresses the importance and impact of maintaining a skilled and productive MPA workforce. In meeting its organisational needs, MPA places strong emphasis on the learning and development of its employees while building a rewarding and engaging work environment.

MPA'S BUSINESS MODEL



MATERIAL ISSUES

- Safe, efficient and sustainable shipping
- Economic contribution
- International support and community engagement
- Financial Sustainability
- Environmental Sustainability
- Our People and Culture



INPUT

- Financial Capital: Ensure that MPA remains financially sustainable
- Manufactured Capital: Provide customer-centric services, and deliver operationally and technologically advanced solutions
- Intellectual Capital: Drive thought leadership in the maritime space
- Human Capital: Become a choice employer and build a pipeline of talents for the maritime industry
- Social and Relationship Capital: Build strong partnerships with stakeholders
- Natural Capital: Optimise scarce resources



INITIATIVES

Strengthen Singapore's Position as a Global Hub Port

- Develop technology to enhance port safety and efficiency
- Promote maritime safety and strengthen emergency preparedness
- Encourage the use of green fuels and manage pollution
- Develop the next-generation Tuas Port and its capabilities

Build an Attractive International Maritime Centre

- Offer strong business support
- Attract new maritime players and develop existing maritime companies in Singapore
- Foster strong connections with complementary international maritime clusters
- Strengthen interlinkages within the maritime ecosystem and with adjacent sectors

Safeguard Singapore's Maritime Interests on the Global Stage

- Maintain a leading and active presence at international and regional maritime platforms
- Promote Singapore's thought leadership on maritime affairs
- Support global maritime leadership development and the training needs of the International Maritime Organization

Grow Singapore as a Maritime Innovation Hub

- Accelerate maritime digitalisation
- Strengthen public-private sector collaboration on maritime R&D
- Support the development and testing of maritime technologies and innovative solutions
- Develop capabilities in early detection and response to cybersecurity threats

Build a Future-Ready Maritime Workforce

- Cooperate with institutes of higher learning and seafaring unions to support training and reskilling of maritime employees
- Build a steady pipeline of local maritime talents
- Facilitate the entry of mid-career professionals into growth areas of the maritime sector

Build a Strong Maritime Singapore Identity

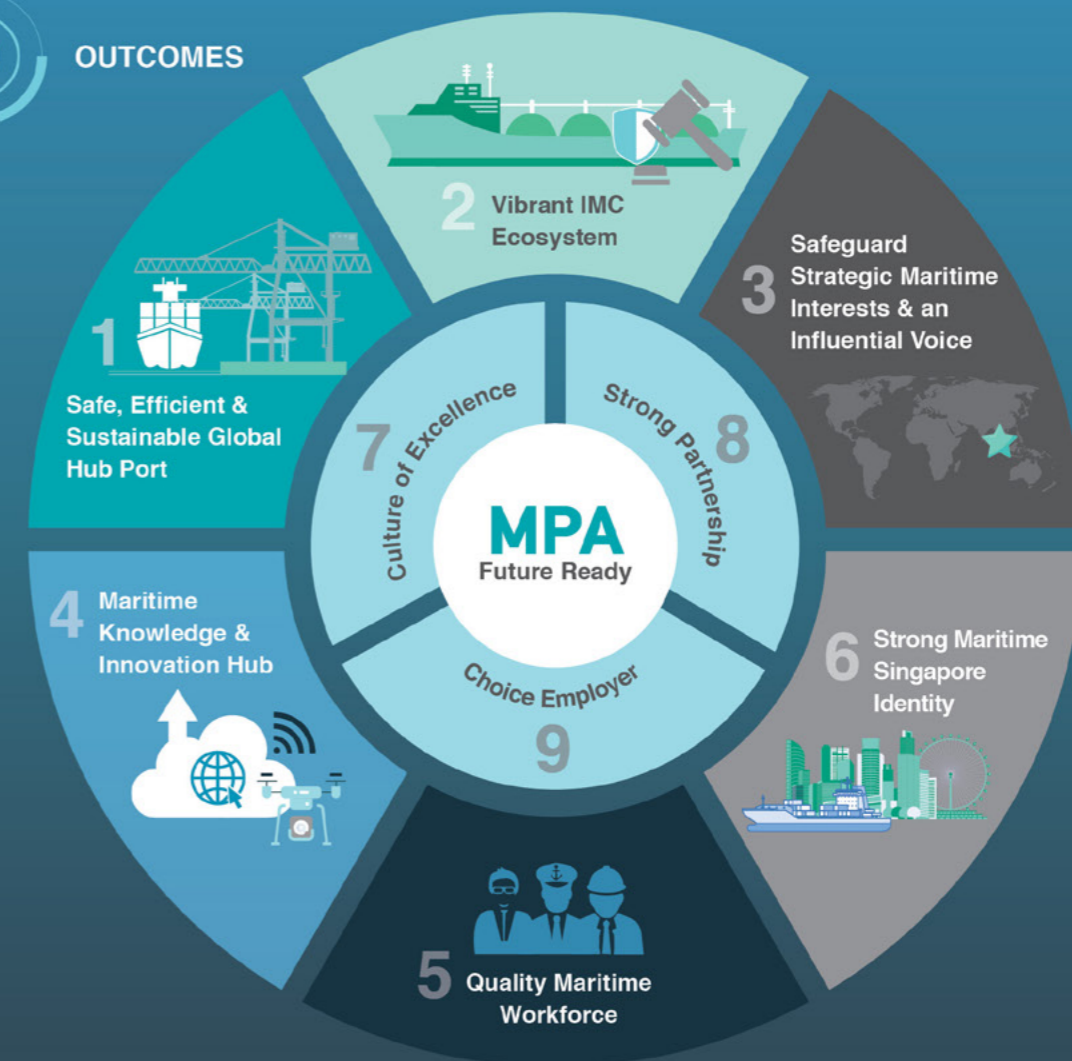
- Strengthen media engagement and publicity to grow awareness of Singapore's maritime industry
- Conduct public engagement programmes to raise the profile of Maritime Singapore and enhance the public image of the industry

Develop Internal Capabilities

- Enhance the delivery of customer services
- Promote a culture of innovation and environmental sustainability in MPA
- Support the professional growth and personal development of employees
- Strengthen labour-management relations



OUTCOMES



KEY PERFORMANCE INDICATORS

- Establish safety and risk management practices
- Improve productivity at the port
- Promote environmental sustainability at the port
- Lead in setting industry standards
- Ensure adequate port infrastructure
- Develop the next-generation Tuas Port
- Anchor and grow key players in Singapore's maritime ecosystem
- Promote a pro-business and conducive environment for maritime businesses
- Be an active voice in regional and international maritime platforms
- Strengthen relationships with international counterparts and the maritime community
- Implement all ratified international regulations and conventions effectively
- Promote maritime thought leadership
- Encourage maritime research and development, and nurture a culture of innovation
- Drive sectoral manpower strategies
- Promote maritime careers by raising the profile of the industry and its careers
- Reinforce Singapore's position as a choice venue for major maritime events
- Enhance public outreach and engagement to grow awareness of the maritime industry

The Maritime and Port Authority of Singapore (MPA) drives the country's aspiration to become a premier global hub port. To achieve this goal, MPA promotes the safety, efficiency and sustainability of the Port of Singapore. In line with Singapore's aspiration, MPA is developing the next-generation Tuas Port to meet the future needs of the nation.

CHAPTER ONE

SAFE, EFFICIENT AND SUSTAINABLE GLOBAL HUB PORT



SAFETY

LEVERAGING TECHNOLOGY TO ENHANCE PORT SAFETY

To enhance navigational safety in Singapore's port waters, MPA has made regular improvements to its Vessel Traffic Information System (VTIS) over the years. In 2019, MPA increased the bandwidth for the communications link between the VTIS and radar stations. It also expanded the tracking capacity of the VTIS to enhance situational awareness. By the end of 2020, MPA will upgrade the VTIS Operator Workstations with the latest hardware and software to boost system performance as well as strengthen cybersecurity.



MPA's Port Operations Control Centre

Investing heavily in improving ship-shore communications, MPA worked with industry partners to develop the VHF Data Exchange System (VDES) as part of the Next Generation Vessel Traffic Management System (NGVTMS) R&D project. The first prototype (VDES 1), deployed in a ship-shore demonstration at the first e-navigation workshop co-organised by MPA and the International Association

of Marine Aids to Navigation and Lighthouse Authorities, underwent successful land and sea trials in early 2019. The demonstration gave the international maritime community a glimpse of ship-shore data communications that is up to 32 times faster than the speed of the existing Automatic Identification Systems.



Demonstration of ship-to-shore data exchange with the first prototype of the Singapore-developed VHF Data Exchange System

To support the NGVTMS R&D project, MPA collaborated with Fujitsu, Singapore Management University and the Agency for Science, Technology and Research's Institute of High Performance Computing (IHPC) to develop a new collision and hotspots prediction system. MPA worked closely with IHPC to study near miss incidents and traffic hotspots based on historical traffic and incident data, and applied the findings to improve the accuracy of the prediction system.



Mr Tang Wey Lin, Deputy Director (Operations Technology Special Projects) of MPA, introducing the multi-agency development of a collision and hotspots prediction system

In 2019, MPA also upgraded the NAVTEX System, which disseminates Maritime Safety Information (MSI) such as navigational warnings to ships. In addition to utilising solid-state amplifier technology, the upgraded NAVTEX System possesses an enhanced user interface to help operators broadcast MSI effectively.

ensuring the safety of cable cars, the upgraded system improves the height monitoring accuracy of vessels entering the cruise bay area.

MPA also replaced the Shipmast Height Detection System with a new state-of-the-art infrastructure that is equipped with cameras, advanced video analytics and lasers. In

Additionally, MPA installed closed-circuit televisions at Woodlands Jetty to monitor the flotsam situation at hotspots. This surveillance allows MPA to proactively deploy additional resources and take steps to prevent the accumulation of flotsam.



Closed-circuit televisions at Woodlands Jetty used to monitor flotsam



PROMOTING MARITIME SAFETY

MPA held the sixth edition of the annual International Safety@Sea Week in August 2019 to raise safety awareness and instil a safety-first culture at sea. As part of MPA's flagship event on maritime safety, the fourth International Safety@Sea Conference centred on the theme of "Maritime Safety in a Digital Age". Attended by nearly 300 international maritime professionals from 29 countries, the event facilitated a dynamic exchange of ideas and best practices on enhancing maritime safety.



Ms Maja Markovic, Executive Director of the European Maritime Safety Agency, delivering the keynote address at the fourth International Safety@Sea Conference



A demonstration of the buckle-type life jacket at the exhibition of the International Safety@Sea Conference

Another key event of International Safety@Sea Week 2019 was the Community of Practice Forum on Maritime Safety. The second edition of the Forum, which cast the spotlight on ferry safety, explored digital solutions, innovative technologies and new ferry safety initiatives. Participants also discussed topics including overloading and complacency. The Forum was attended by local harbour and regional ferry operators, as well as representatives from several maritime administrations and academia.



Community of Practice Forum on Maritime Safety 2019

MPA also held a ferry emergency exercise (FEREX) during International Safety@Sea Week 2019 to test interagency coordination and readiness. The exercise simulated the evacuation of 150 passengers on board a regional ferry. During the exercise, MPA deployed cutting-edge technologies to bolster situational awareness and contingency response. These technologies included SMART glasses worn by the on-scene commander, remotely piloted water rescue lifebuoys and camera-mounted drones that livestreamed the emergency operation. In a first for FEREX, the exercise involved the mounting of a medical helicopter evacuation



Mounting of a medical helicopter evacuation during the 2019 ferry emergency exercise

Since 2019, the quarterly Singapore Registry of Ships (SRS) e-bulletin has incorporated the Safety e-bulletin. The revamped SRS e-bulletins, which are circulated to shipping companies operating in Singapore and overseas, now feature articles including technological developments on improving safety at sea, the safety initiatives of maritime companies and health and wellness tips (e.g. fatigue management, mental health). They also cover interviews with MPA's Safety Ambassadors and findings of incident investigations.

CONTINGENCY PLANNING

To protect frontline officers against the global measles outbreak – a threat that loomed close to home with the measles outbreak at Hong Kong International Airport – MPA worked with public agencies such as the Ministry of Health to vaccinate frontline officers against measles. The vaccination was carried out on officers working at Points-of-Entry who run a high risk of exposure to the virus.

In 2019, MPA also worked with the Police Coast Guard and the Immigration & Checkpoints Authority (ICA) to carry out 89 International Ship and Port Facility Security (ISPS) Code renewal verification exercises and nine intermediate verification exercises. The ISPS Code covers a comprehensive set of measures to enhance the security of ships and port facilities. As at 31 December 2019, there are 122 ISPS-compliant port facilities in Singapore.



MARITIME CYBERSECURITY

In April 2019, MPA launched the Maritime Cybersecurity Operations Centre (MSOC) to strengthen Singapore's maritime cybersecurity posture against cyberattacks on maritime Critical Information Infrastructures (CIIs). The MSOC carries out round-the-clock monitoring and correlates data activities across maritime CIIs to enable early detection and analysis of anomalies, and quick response to cyber threats. MPA also built key data linkages between MSOC and the Port Operations Control Centre in order to respond to cyber-physical incidents in a holistic and timely manner.



Launch of the Maritime Cybersecurity Operations Centre: Mr Teo Chin Hock, Deputy Chief Executive (Development) of Cyber Security Agency of Singapore; Mr Vincent Chong, President and Chief Executive Officer of ST Engineering; Mr Niam Chiang Meng, Chairman of MPA; Ms Quah Ley Hoon, Chief Executive of MPA; and Mr Ravinder Singh, President of ST Engineering Electronics (left to right)

Recognising that cybersecurity awareness is a first line of defence against cyberattacks, MPA organised the 2019 Singapore Maritime Technology Conference Cybersecurity Seminar to heighten industry awareness of the evolving threat that cyberattacks pose. The Seminar facilitated a fruitful discussion on ways that the maritime sector can be a cyber-smart industry. Participants of the seminar examined cybersecurity trends and shared best practices to enhance the cyber protection efforts of maritime companies.



Mr Lee Fook Sun, Chairman of Ensign InfoSecurity Pte Ltd, delivering the keynote address at the 2019 Singapore Maritime Technology Conference Cybersecurity Seminar

EFFICIENCY

Singapore was crowned the "Best Seaport in Asia" for the 31st time at the 2019 Asia Freight, Logistics and Supply Chain Awards (AFLAS). The AFLAS awards recognise organisations that demonstrate leadership as well as consistency in service quality, innovation, customer relationship management and reliability.

MPA continually seeks to enhance efficiency at the Port of Singapore through innovation to serve the maritime community with excellence.

Leveraging Technology to Enhance Port Efficiency

In October 2019, MPA launched digitalPORT@SG™ to improve port efficiency and prepare for next-generation port operations at Tuas. digitalPORT@SG™ is a maritime single window that serves as a one-stop portal for maritime regulatory and port services transactions. It enhances the efficiency, user-friendliness and transparency of document submissions to several government agencies.



Launch of digitalPORT@SG™: Mr Heng Swee Keat, Deputy Prime Minister and Minister for Finance; Her Excellency Anita Nergaard, Ambassador of Norway to Singapore; Dr Lam Pin Min, Senior Minister of State, Ministry of Transport and Ministry of Health; and Mr Loh Ngai Seng, Permanent Secretary, Ministry of Transport (left to right)

In Phase 1, digitalPORT@SG™ streamlines vessel, immigration and port health clearances across ICA, the National Environment Agency and MPA into a single application by consolidating up to 16 separate forms. Following a successful trial run, MPA progressively rolled out Phase 1 of digitalPORT@SG™ to the industry. Shipmasters and ship agents from more than 600 shipping companies can now submit, track and receive approvals for arriving and departing ships through the portal. Collectively, the industry is estimated to save 100,000 man-hours per year.

As part of the next phase of development, digitalPORT@SG™ will employ artificial intelligence to optimise port resources and enhance efficiency. It will facilitate just-in-time operations for optimal vessel passage planning at the Port of Singapore. digitalPORT@SG™ will also serve as a single digital shopfront for the booking of marine services.

The portal is envisioned as a major node under MPA's digitalOCEANS™ strategy to encourage Open or Common Exchange And Network Standardisation. With the objective of enabling seamless port-to-port connectivity, effective information exchange and efficient transactions along the maritime transport chain, this global initiative by MPA champions the development and adoption of common data standards and application programming interfaces to facilitate digital port transactions among ships, port authorities and platform providers.

In collaboration with ST Electronics and PSA Marine, MPA also funded the Remote Assistance Pilotage Advisory System project that enables a shore-based pilot to issue manoeuvring orders remotely when guiding vessels. The system arms a shore-based pilot with real-time video imagery and traffic information to foster situational awareness.



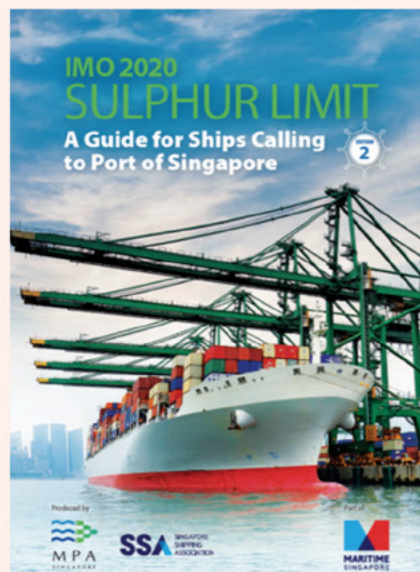
SUSTAINABILITY

PREPARATIONS FOR THE INTERNATIONAL MARITIME ORGANIZATION (IMO) 2020 FUEL OIL SULPHUR LIMIT

MPA undertook a comprehensive three-pronged approach to prepare the industry for the IMO 2020 fuel oil sulphur limit. Under the new regulations, ships operating outside designated emission control areas are required to use fuel oil of not more than 0.50% sulphur content from 1 January 2020. In addition, ships without abatement technology (e.g. scrubbers) installed are not permitted to carry fuel oil of more than 0.50% sulphur content from 1 March 2020.

Firstly, MPA provided technical guidance to industry stakeholders. It cooperated with the Singapore Shipping Association (SSA) to publish two technical guidebooks –

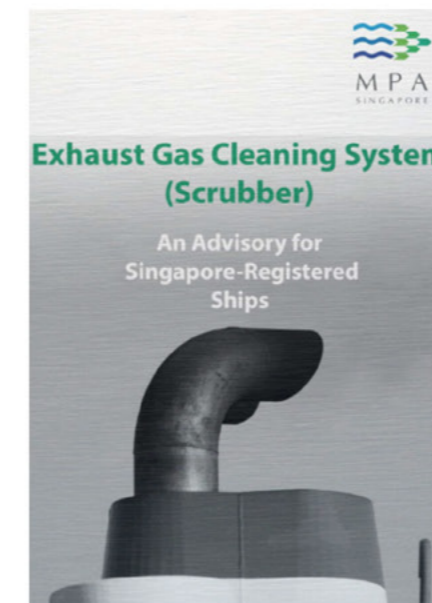
one for Singapore-registered ships and the other for ships calling at the Port of Singapore. The guidebooks provide detailed information for Singapore-registered ships on compliance with the IMO 2020 regulations, as well as the requirements and procedures for ships calling at the Port of Singapore. The second edition of the guidebooks was published in June 2019. To complement the technical guides, MPA also published “A Guide for Bunkering Industry” in October 2019. The guidebook provides an overview of Singapore’s efforts to comply with the IMO 2020 regulations from the supply perspective of bunkering and complements the technical guides for visiting ships.



Technical guidebooks on IMO 2020 fuel oil sulphur limit

¹ Ships operating inside designated emission control areas such as the Baltic Sea and the North Sea are required to use fuel of not more than 0.10% sulphur content.

In addition, MPA also issued a scrubber advisory for Singapore-registered ships installed with exhaust gas cleaning systems. The advisory shares observations and best practices on the installation and operation of scrubbers. It helps to prevent pollution and promote the safe operation of Singapore-registered ships.



Scrubber advisory for Singapore-registered ships

Secondly, MPA embarked on a busy schedule of stakeholder engagement programmes. At events such as the MPA-SSA IMO2020 Seminar, SRS Forum 2019 and the 2019 Bunker Forum, MPA gathered industry feedback on compliance issues and offered advice to maritime companies on the new regulations.



Bunker Forum 2019

Thirdly, MPA worked closely with oil majors, bunker suppliers and cargo traders to ensure that there would be adequate supply of compliant fuel oil in Singapore. In April 2019, MPA published a list of licensed bunker suppliers providing compliant fuel oil to reassure the industry that bunker supply of compliant fuel in Singapore is adequate to meet future demand.



Ms Quah Ley Hoon, Chief Executive of MPA, engaging the shipping community at the Singapore Registry of Ships Forum 2019



ENCOURAGING THE USE OF GREEN FUELS

As a maritime nation, MPA is committed to promoting the environmental sustainability of the industry. Its sustainability efforts were recognised at AFLAS 2019, where the Port of Singapore was crowned the "Best Green Seaport".

Central to MPA's industry sustainability efforts is the Maritime Singapore Green Initiative (MSGI), which aims to reduce the environmental impact of shipping-related activities on the coastal and marine environment.

In 2019, MPA extended the MSGI for another five years to 2024 and revised the initiative with a new focus on decarbonisation. Under the enhanced MSGI, incentives for reducing carbon emissions replaced those for cutting

sulphur emissions in the Green Ship Programme and Green Port Programme. The former offers incentives for Singapore-registered ships to encourage the adoption of engines using alternative fuels with low carbon content such as liquefied natural gas (LNG). Likewise, the Green Port Programme introduces port dues concessions for qualifying vessels that either use LNG as bunker fuel or exceed IMO's Energy Efficiency Design Index requirements. In addition, the Green Energy Programme and Green Technology Programme merged to form the Green Energy and Technology Programme. This new programme focuses on pilot trials and new technology research for decarbonisation and alternate fuels.

MPA also extended its LNG programmes to run for another five years from 1 January 2020 to 31 December 2024 in order to encourage the uptake of LNG bunkers in the Port of Singapore. The programmes grant a five-year waiver of craft dues for LNG-fuelled harbour craft from their licence registration dates, and an additional 10% port dues concession to Green Port Programme vessels that tap on LNG-fuelled harbour craft for port services such as towage.

In addition, Singapore is LNG-bunkering ready. FuelNG and Pavilion have performed around 200 truck-to-ship LNG bunkering operations. Ship-to-ship LNG bunkering for ocean-going vessels as well as the first simultaneous operations for LNG bunkering and cargo operations will take place in Singapore soon. MPA will continue to develop the LNG bunkering infrastructure and ecosystem to position Singapore as a major LNG bunkering hub for the region and the world.



Enhanced Maritime Singapore Green Initiative

QUALITY BUNKERING SERVICES

With IMO 2020 sulphur regulations coming into force on 1 January 2020, MPA mandated the use of mass flow meters for the delivery of distillates from 1 July 2019.² This ensures a level playing field in the delivery of distillates for bunker supply to ocean-going vessels.

The use of mass flow meters provides assurance to both buyers and suppliers on the delivered quantity of distillates. It enhances transparency in the bunkering process, improves operational efficiency and increases productivity in the delivery of distillates. To help bunker companies adopt mass flow meters for the delivery of distillates,

MPA invested S\$3.77 million in co-funding support to 45 bunker tankers.

In 2019, MPA worked with Enterprise Singapore and industry representatives to develop Singapore Standard 648 (SS 648): 2019 Code of Practice for Bunker Mass Flow Metering. This new Singapore Standard will replace the 2015 Technical Reference for Bunker Mass Flow Metering (TR 48) from 1 May 2020. SS 648, which covers new requirements for multi-meter installation, became the first standard of its kind in the world to cover the bunkering of Marine Fuel Oil and distillates.

² Since 2017, it is mandatory to use MPA-approved mass flow meters for the delivery of residual fuels.

MANAGING OIL POLLUTION

MPA organised the 11th edition of the International Chemical and Oil Pollution Conference and Exhibition (ICOPCE) in 2019 under the theme of 'Smart Technologies and Intelligent Operations for Marine Environment Protection'. Over 314 industry professionals from 34 countries attended the biennial event. Participants engaged in a robust discourse on topics such as digital applications for pollution prevention, marine pollution management strategies and inter-governmental collaboration on crisis management.



Mr Niam Chiang Meng, Chairman of MPA, delivering the opening remarks at the 2019 International Chemical and Oil Pollution Conference and Exhibition

At ICOPCE 2019, eight local and international companies displayed their capabilities, which range from spill response technologies and emergency response solutions to spill-related marine and offshore services.



Showcase of HARBO Technologies' T-Fence V, designed for quick deployment to contain oil spill, at the International Chemical and Oil Pollution Conference and Exhibition

As part of ICOPCE 2019, 150 personnel from 20 agencies including MPA, Singapore Police Coast Guard, the Republic of Singapore Navy and the Singapore Civil Defence Force participated in Chemical Spill Exercise (ChemSpill Ex) 2019. The tabletop and seaward equipment deployment exercise tested the readiness and response capabilities of Singapore in managing chemical spills that happen at sea. It simulated the collision of two tankers at Sinki Fairway that resulted in the spillage of 500 tonnes of Xylene into the sea. The exercise deployed chemical protective gears, gas detectors and chemical containment booms in managing the chemical spill incident. As part of the exercise, two personnel were also medically evacuated using height rescue techniques.



Medical evacuation using height rescue techniques at Chemical Spill Exercise 2019

In addition, MPA formed the Bunker Spill Task Group (BSTG) in March 2019 to identify the root causes of bunker spills and make recommendations on improving bunkering operations. BSTG devised a checklist for Port Inspectors to gather information on bunker spills and determine their causes. It also developed "Guidelines for Preventing Pollution during Bunkering Operations", which was documented in Port Marine Circular No. 13 of 2019.



CHAMPION OF SUSTAINABILITY REPORTING

MPA is a frontrunner of sustainability reporting in the maritime industry and the public sector of Singapore. Together with Singapore Exchange Limited, Global Compact Network Singapore, Institute of Singapore Chartered Accountants, and sustainability consultants from Ernst & Young LLP, KPMG and PwC Singapore, MPA launched the first sector-specific Maritime Sustainability Reporting Guide in 2019.

MPA recognises first-hand the value that sustainability reporting brings to maritime companies. This includes promoting operating efficiency and enhancing the environmental and social impact management of a business. By driving sustainability reporting, MPA aims to inspire maritime companies to adopt sustainable business practices and embark on their own sustainability journeys.

The Maritime Sustainability Reporting Guide shares best practices and provides a practical framework to equip maritime companies with skills on sustainability reporting. It also features MPA's very own sustainability reporting journey as a case study.



Maritime Sustainability Reporting Guide



Launch of the first sector-specific Maritime Sustainability Reporting Guide: Ms Lim Ju May, Deputy Director (Technical) of the Institute of Singapore Chartered Accountants; Ms Fang Eu-Lin, Partner, Sustainability and Climate Change, PwC Singapore; Mr Loh Boon Chye, Chief Executive Officer of Singapore Exchange Ltd; Ms Quah Ley Hoon, Chief Executive of MPA; Ms Goh Swee Chen, President of Global Compact Network Singapore; Mr Ian Hong, Partner, Sustainability Advisory & Assurance, KPMG; and Mr Simon Yeo, Partner, Climate Change and Sustainability Services, Ernst & Young LLP (left to right)

NEXT-GENERATION PORT AT TUAS



Ms Quah Ley Hoon, Chief Executive of MPA, delivering the opening remarks at the last caisson installation ceremony of Tuas Port Phase 1

Tuas Port represents a bold vision for Singapore. When fully completed by the 2040s, it will be the world's largest container port at one single location. Capable of handling up to 65 million twenty-foot equivalent units (TEUs) per annum, Tuas Port will have double the current handling capacity at the Port of Singapore. It not only caters for future growth in container handling demand, but also consolidates all existing container-handling facilities at Tuas when the leases of the city terminals expire.

In April 2019, the final caisson for Tuas Port Phase 1 reclamation was installed. All 221 caissons that form the 8.6km of wharf structure were fabricated six months ahead of schedule. The construction of caissons is a safer and more efficient method of reclamation than traditional methods such as piling.



MPA engineers posing for a group photograph with Mr Khaw Boon Wan, Coordinating Minister for Infrastructure and Minister for Transport



Terminal construction for Tuas Port Phase 1

The construction of deep-water container berths also commenced for Tuas Port Phase 1, which will open progressively from 2021. When completed, Tuas Port Phase 1 will have 21 berths with an annual handling capacity of up to 20 million TEUs.

MPA adopted innovative solutions that pushed the frontiers of engineering during the construction of Tuas Port Phase 1. The multi-purpose vessel TEMAROCK, for instance, automated the rock mound construction of the caisson quay wall foundation. Furthermore, DELTA PRINCE, a specialised vessel mounted with a lifting frame was deployed to lower the fabricated concrete slabs onto the seabed to form the

scour protection. Additionally, the Automatic Rebar Machine using Robotics System automated the bending and cutting of reinforcement steel bars, which is otherwise a manual and hazardous process.

In July 2019, Tuas Port achieved another key milestone with the installation of the first caisson for Tuas Port Phase 2. In all, 227 caissons will be fabricated onsite to form a 8.6km wharf structure. When operational, Tuas Port Phase 2 would add another 21 berths with a total annual handling capacity of up to 21 million TEUs. Phase 2 is the largest of the four phases to be reclaimed at 387 hectares.



First caisson installation ceremony of Tuas Port Phase 2: Mr Bas van Bemmelen, Business Unit Director of Boskalis International B.V.; Mr Takuzo Shimizu, President, Chief Executive Officer and Representative Director of Penta-Ocean Construction Co Ltd; Mr Calvin Phua, Deputy Secretary, Ministry of Transport; Dr Lam Pin Min, Senior Minister of State, Ministry of Transport and Ministry of Health; Ms Quah Lay Hoon, Chief Executive of MPA; Mr Park Chan-Soo, Chief Operating Officer of Hyundai Engineering & Construction Co Ltd; and Capt M Segar, Assistance Chief Executive (Operations) of MPA (left to right)

Similarly, Tuas Port Phase 2 adopts innovative construction technology to enhance onsite safety. For instance, the project team uses a slip jack monitoring system that gives an unobstructed view of the hydraulic system. This feature enhances the safety of workers by enabling prompt rectifications to the hydraulic system. Notably, a specialised equipment was built to automate the application of silane onto caisson walls to protect them from exposure to tidal zones after the caissons were installed to form the quay wall. In addition, the process of rebar modularisation enables the pre-fabrication of steel bars for the caisson base slab, which improves the safety of personnel working below the steel bars.

The project team is also using artificial intelligence to monitor the construction site following encouraging results from trials. For instance, the team is employing facial recognition tools to identify security breaches at entry and exit points, as well as video analytics to detect unsafe acts and prevent potential injury at the caisson fabrication yard. The project team has also embarked a modelling and simulation study to detect chokepoints and congestion hotspots within the working area, and is exploring the use of video analytics and machine learning to monitor silt plume dispersion.

In addition, the construction of Tuas Port Phases 1 and 2 is carried out in a sustainable way. About 70% and 50%

of the total fill materials for Phases 1 and 2 respectively are dredged materials from the deepening of basins and fairway, as well as excavated earth from land construction projects. Reusing these materials, which would otherwise be disposed, reduces the reliance on sand for reclamation and generates savings of more than S\$2 billion in fill material costs. Moreover, to mitigate the impact of climate change, the operational platform of Tuas Port will be constructed five metres above mean sea level to buffer against rising sea levels over the next 100 years.

Moving forward, Tuas Port will be supported by a complementary supply chain ecosystem comprising warehouses, container depots and factories to facilitate the efficient flow of cargo. High-growth industries that would benefit from close proximity to Tuas Port have also been identified and planned for location within the Tuas ecosystem. In addition, public agencies including MPA are working together on the transportation network at Tuas and public housing options in the West to ensure that Tuas Port is conveniently accessible to port workers. Under the Integrated Utility Services Plan, agencies are also studying the option of a common service tunnel for utility infrastructure along Tuas South Boulevard to Tuas Port, which will minimise inconvenience to road users and adjacent developmental operations.

To strengthen Singapore's shipping core and grow a comprehensive range of maritime services in Singapore, MPA continues to anchor new maritime businesses in the country while working closely with existing companies to deepen and expand their operations in Singapore. MPA also seeks to foster interlinkages within the maritime ecosystem, strengthen connections with adjacent sectors and build links with other international maritime clusters. In driving the next phase of industry transformation, MPA forges new partnerships with industry associations and public agencies to drive the maritime sector's digital and workforce transformation.



CHAPTER TWO

VIBRANT INTERNATIONAL MARITIME CENTRE ECOSYSTEM



BUILDING AN ATTRACTIVE INTERNATIONAL MARITIME CENTRE

Singapore is home to a diverse range of maritime businesses. More than 5,000 maritime establishments are based in Singapore.

Complementing its position as a major global hub port, Singapore continues to be recognised as a leading international maritime centre in global benchmarking studies. In 2019, for instance, the Xinhua-Baltic International Shipping Centre Development Index named Singapore as the world's top international shipping centre for the sixth year running. Similarly, Singapore ranked first amongst 15 maritime nations for the fourth time in the Leading Maritime Capitals of the World Report, which is released biennially by Menon Economics and DNV GL. Singapore clinched the top spot in three out of five areas, namely shipping, ports and logistics, as well as attractiveness and competition. In addition, the Singapore Registry of Ships is presently the fifth largest in the world, recording 97.3 million gross tonnage in 2019.

Xinhua-Baltic International Shipping Centre Development Index

WORLD'S TOP



international shipping centre for the sixth year running

Leading Maritime Capitals Of The World Report

1st amongst **15** maritime nations for the fourth time

TOP SPOT

in shipping, port and logistics, as well as attractiveness and competition



STRENGTHENING SINGAPORE'S SHIPPING CORE

Today, Singapore is home to one of the world's highest concentrations of international shipping groups. More than 150 international shipping groups across diverse sectors such as container, dry bulk, tanker and offshore have set up their presence in Singapore. Together, they generate local business spending of more than S\$3.5 billion in 2019.

Fifth largest ship registry in the world, aggregating

97.3

million gross tonnage in 2019

More than

150

international shipping groups

Generate local business spending of over

S\$3.5

billion in 2019

Singapore continues to remain attractive as an Asian base for shipowners and operators. OneBulk, for instance, decided in 2019 to base one of its two main offices in Singapore. The strategic move enabled the company to access the Asian market through international trading companies in Singapore, while tapping on the availability of cargo in Asia.

GROWING SINGAPORE'S MARITIME SERVICES CLUSTER

In addition, Singapore has grown to become a vibrant marketplace that not only represents shipping interests, but also welcomes international commodity trading players. Many of these global commodity traders have established shipping operations in Singapore. The presence of these international shipping and commodity trading groups, coupled with Singapore's leading position as a global hub port and major bunkering hub, has in turn fostered the development of an inclusive range of commercial and technical maritime services. In recent years, Singapore has made steady progress in building up a comprehensive pool of maritime service providers in domains such as shipbroking, marine insurance, maritime law and arbitration, and ship financing.

Singapore is an established centre for tanker and dry bulk broking activities. In 2019, Sentosa Ship Brokers – a homegrown shipbroking firm – set up a new tanker desk in Singapore that catered to small-sized vessels.

Additionally, International Group Protection and Indemnity (P&I) Clubs in Singapore have increased their offerings to cover the full suite of P&I insurance services including claims, underwriting, and loss prevention services. In 2019, Britannia P&I was the latest entrant to set up its branch in Singapore.

Furthermore, MPA continues to work with shipping companies already rooted in Singapore to deepen their operations in the country. In 2019, BW LPG – one of the world's largest owners and operators of LPG carriers – consolidated its ownership and operation of more than 40 vessels in the city-state.

Singapore's maritime arbitration landscape also continued to grow in 2019. The Singapore Chamber of Maritime Arbitration (SCMA) commemorated its 10th year anniversary by organising The Race to Relevance conference in October 2019. More than 160 senior legal practitioners and maritime business leaders from Singapore and the region attended the conference, which discussed key developments shaping the maritime arbitration sector and the practice of maritime dispute resolution. In September 2019, SCMA also collaborated with the Singapore Academy of Law to conduct the inaugural mock arbitration demonstration at SGX Centre. The demonstration offered the 100-strong audience insights into an SCMA arbitration proceeding, which is typically a private process.

Furthermore, MPA continued to work with partners such as the Singapore Exchange, the Singapore Maritime Foundation (SMF), and the Singapore Shipping Association (SSA) to diversify sources of maritime financing in Singapore. As part of its efforts, MPA, together with SMF, supported SSA, Credit Lyonnais Securities Asia and Transport Capital in organising the Maritime Capital Forum. Held in November 2019, the third edition of the Forum connected maritime companies with institutional financiers and investors to explore alternative financing.



Maritime Capital Forum 2019 (photograph by Singapore Shipping Association)



STRENGTHENING CONNECTIVITY AND INTERLINKAGES

Strengthening Singapore's connectivity to capture both physical and non-physical trade flows enables Singapore to grow as a thriving hub for maritime businesses and activities.

To reinforce network effects, MPA seeks to deepen interlinkages within the maritime ecosystem by broadening the depth and range of maritime activities, as well as co-locating new and existing maritime-related businesses.

MPA is also strengthening links with adjacent sectors by facilitating the growth of non-traditional players such as commodity trading firms, e-commerce companies and maritime technology enterprises.

MPA also fosters connections with other complementary international maritime clusters by strengthening business linkages, collaborating on research and development, training and education, and developing international standards and regulations that benefit the maritime industry.

STRENGTHENING SINGAPORE'S CONNECTIVITY



Deepen interlinkages within the maritime ecosystem



Facilitate the growth of non-traditional players



Foster connections with other complementary international maritime clusters

DRIVING THE NEXT PHASE OF INDUSTRY TRANSFORMATION

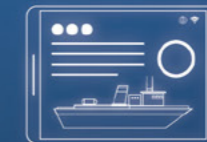
In driving the next phase of industry transformation, MPA developed the Sea Transport Industry Transformation Map (ITM) in partnership with unions, government agencies and industry stakeholders. Launched in 2018, the Sea Transport ITM established the vision for Maritime Singapore to become a Global Maritime Hub for Connectivity, Innovation and Talent by 2025.

The four main pillars of the Sea Transport ITM are:



Innovation

Build a vibrant innovation ecosystem to drive competitiveness and new growth areas



Productivity

Develop a highly automated and digital maritime environment



Jobs and Skills

Nurture a future-ready maritime workforce



Internationalisation

Support maritime companies to become global champions

In 2019, as part of the Sea Transport ITM, MPA forged new partnerships with government agencies, industry associations and private companies to leverage one another's strengths in driving digital and workforce transformation in the maritime sector.

ACCELERATING MARITIME DIGITALISATION

MPA embarked on the following new initiatives with public agencies and industry partners in 2019 to drive digitalisation in the maritime sector:

Electronic Bills of Lading (eBL)

Following the successful eBL trials by two consortia led by APL and Pacific International Lines, MPA signed a Memorandum of Understanding with the Infocomm Media Development Authority (IMDA), Singapore Customs and SSA to develop a new interoperability framework comprising legal development and technical standards. These standards provide assurance of trust and integrity in information exchange across the maritime value chain, thereby facilitating the digitalisation of maritime documentation and trade.



Dr Lam Pin Min (centre), Senior Minister of State, Ministry of Transport and Ministry of Health, witnessing the signing of the Memorandum of Understanding by Mr Lim Teck Leong, Deputy Director-General of Singapore Customs; Mr Esben Poulsen, then President of Singapore Shipping Association; Ms Quah Ley Hoon, Chief Executive of MPA; and Mr Tan Kiat How, Chief Executive Officer of the Infocomm Media Development Authority (left to right)



Sea Transport Industry Digital Plan (IDP)

Launched at the Singapore Maritime Technology Conference in April 2019, the Sea Transport IDP helps small and medium-sized enterprises (SMEs) in the harbour craft and ship agency subsectors embark on digitalisation. Under the Sea Transport IDP, MPA provides SMEs with easy-to-use, step-by-step guides on digital solutions that they can adopt at each stage of their growth. A total of S\$3.7 million was set aside by ESG for eligible SMEs to adopt the pre-approved digital solutions curated by MPA.

DIGITAL ROADMAP FOR SHIP AGENCY

STAGE 01

GETTING DIGITAL ECONOMY-READY

Streamline Operations
Optimise Resources

Ship Agency Management

- Service Booking Portal
- Cargo Operations (for Liner Agents)
- Port Call Management
- Port Disbursement
- Accounting & Payment
- Management Reporting
- Resource Management



Collaboration & Document Management



STAGE 02

GROWING IN THE DIGITAL ECONOMY

Integrated Insights
Collaborative Ecosystem



Advanced Ship Agency Management



Ship Agent Training Management

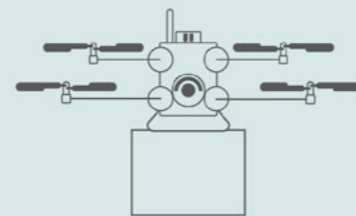
STAGE 03

LEAPING AHEAD

Autonomous Operations
Intelligent Business



Shipping Blockchain Ecosystem



Drones for Document Delivery

ROBOTIC PROCESS AUTOMATION

To automate ship agency business processes such as immigration clearances, cargo declarations and the generation of shipping documentation

BUSINESS CAPABILITIES

Human resource, payroll and accounting

DIGITAL ROADMAP FOR HARBOUR CRAFT

STAGE 01

GETTING DIGITAL ECONOMY-READY

Streamline Operations
Optimise Resources



Vessel Management



Order Booking and Deployment Management



Video Surveillance and Monitoring

STAGE 02

GROWING IN THE DIGITAL ECONOMY

Integrated Insights
Collaborative Ecosystem



e-Procurement

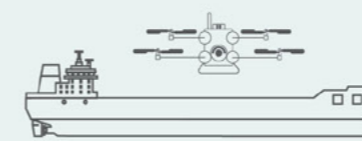


Advanced Ship Agency Management

STAGE 03

LEAPING AHEAD

Autonomous Operations
Intelligent Business



Drones for Maritime Operations



Autonomous Piloting

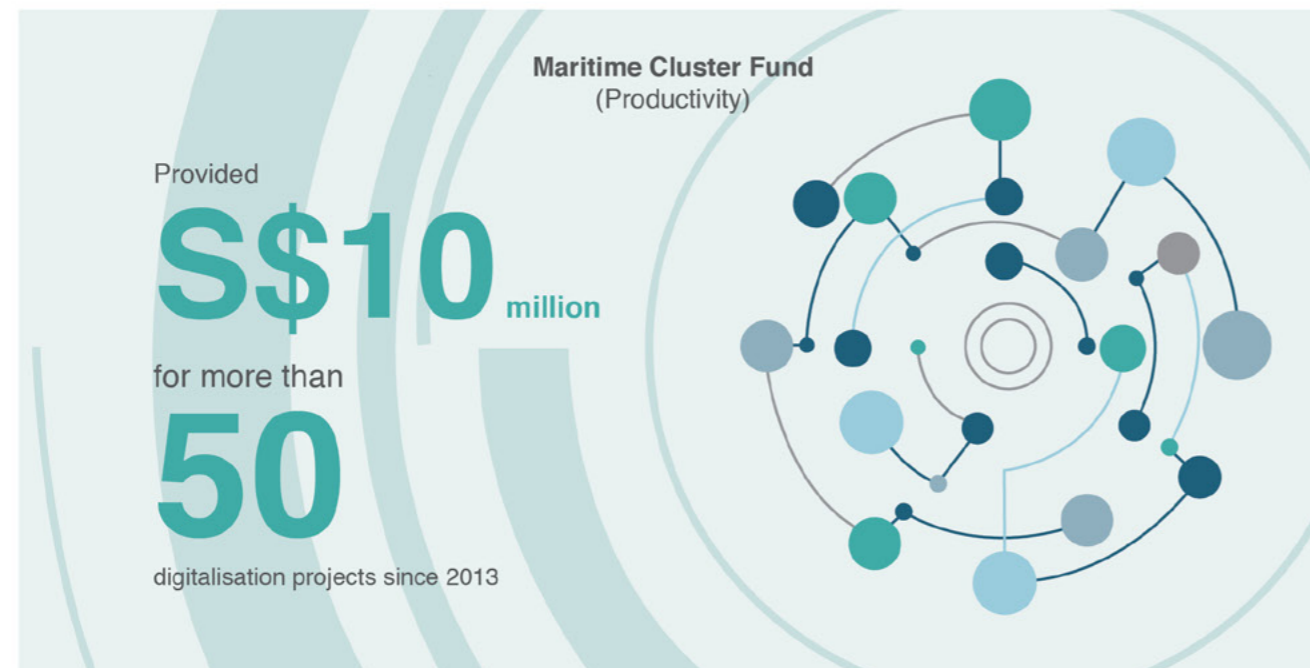
BUSINESS CAPABILITIES

Human Resource, payroll, accounting, and resource and training management



Digital Acceleration Index (DAI)

Deployed by IMDA, the DAI is a proprietary assessment tool developed by the Boston Consulting Group to provide insights into the digital maturity of economic sectors in Singapore. Findings from the DAI survey, which measures the digital maturity of maritime enterprises, will be incorporated into the Maritime Innovation Playbook. The Playbook – a guide that will be jointly developed with SSA in 2020 – will help maritime businesses chart their digitalisation roadmap according to their level of digital maturity.



These initiatives offer additional support on top of the Maritime Cluster Fund (Productivity), which has provided over S\$10 million for more than 50 digitalisation projects since 2013. These digitalisation projects, which range from the development of dynamic container pricing and booking systems to the deployment of robotic process automation for fleet performance reporting, enhance the efficiency of maritime operations in Singapore.

RESEARCH ON THE FUTURE OF THE MARITIME WORKFORCE

In 2019, MPA conducted the fourth Singapore Maritime Cluster Manpower Study with the following aims:

- Analyse the benefits and compensation trends in Singapore's maritime sector
- Expand and enhance the Sea Transport Skills Framework
- Examine the impact of future trends on the maritime workforce

Companies that participate in the benefits and compensation survey will receive benchmarking reports that inform them of their wage competitiveness vis-à-vis their industry peers and the wider Singapore workforce.

Supported by SkillsFuture Singapore, the revised Sea Transport Skills Framework will feature additional jobs and

the emerging skills critical to the maritime industry. The updated Framework seeks to offer maritime human resource (HR) practitioners a guide to develop their talent acquisition strategy as well as Learning and Development initiatives. Maritime educators may also refer to the framework to plan their curriculum.

In 2020, findings of the Maritime Cluster Manpower Study will be published in the Future of Maritime Workforce Report. The report will provide maritime employers, workers, educators and students with insights on the way that developments in technology, business landscape, regulatory regimes, environmental sustainability and demography will influence maritime employment.

BUILDING COMMUNITIES OF BEST PRACTICES TO DRIVE DIGITAL AND WORKFORCE TRANSFORMATION

To translate digital and workforce transformation strategies into action, MPA collaborated with SSA and SMF to establish the Circles of Innovators, which empower digital and HR champions to drive business transformation and growth within maritime enterprises.



Digital Innovators participating in an innovation workshop conducted by NUS Enterprise

The Circle of Digital InnOvators (CDO) network was launched in April 2019 to catalyse ground-up innovation and facilitate transformation across various sea transport subsectors. Digital Innovators work closely with MPA and SSA to develop digital roadmaps and implement digitalisation projects. To date, there are more than 60 digital innovators in the CDO network.



Mr Kenneth Lim (standing left), Senior Director (Innovation, Technology & Talent Development) of MPA; and Mr Kenneth Chia (standing right), Executive Director of the Singapore Maritime Foundation, addressing HR Innovators at the Circle of HR InnOvators Fireside Chat

The Circle of HR InnOvators (CHRO) network is a platform for maritime HR professionals to share best practices and become strategic business partners in driving business transformation and innovation. HR Innovators work closely with MPA and SMF to champion the development

of HR capabilities in their organisations and promote HR innovation in the maritime sector. More than 20 companies have joined the CHRO network since it was established in November 2019.

CHAPTER THREE

SAFEGUARD STRATEGIC MARITIME INTERESTS AND AN INFLUENTIAL VOICE

Singapore is highly dependent on international seaborne trade. Recognising the global nature of shipping, MPA actively participates in and supports international and regional efforts to promote safe, sustainable and efficient shipping. It is critical that nations and organisations work together to advance these common interests and goals.

Singapore aspires to be an active contributor to and influential voice in international maritime affairs. As Singapore's lead maritime agency, MPA heads the nation's efforts on this front by participating and assuming leadership positions in key international bodies such as the International Maritime Organization (IMO), the International Hydrographic Organization (IHO), the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and the Port Authorities Roundtable, among others.





Mr Khaw Boon Wan, Coordinating Minister for Infrastructure and Minister for Transport, at the 31st IMO Assembly with the Singapore delegation

MAINTAINING OUR INFLUENCE ON THE GLOBAL STAGE

RE-ELECTION TO THE IMO COUNCIL FOR THE 2020-2021 BIENNIUM

Singapore received a resounding vote of confidence from the international community when she was re-elected to the IMO Council for the 14th consecutive term on 29 November 2019.¹

Since becoming an IMO Council Member in 1993, Singapore has chaired the IMO Council, the Sub-Committee on Bulk Liquids and Gases and the Sub-Committee on Flag State Implementation. Singapore had also previously assumed the position of Vice Chair of the Marine Environment Protection Committee and the Maritime Safety Committee.

Singapore currently serves as Vice-Chair for the Sub-Committee on Human Element, Training and Watchkeeping.

Over the years, as an IMO Council Member, Singapore has made significant contributions to the efforts of the international maritime community in enhancing navigational safety and promoting efficient and sustainable shipping.

Singapore is also a strong advocate of the universal and uniform implementation of IMO instruments. To date, Singapore has ratified and implemented every major IMO convention in force relating to ship safety and the prevention of pollution from ships.



The Singapore delegation at the evening reception hosted by Singapore

¹ The IMO Council comprises 40 members across three categories: Category A for 10 states with the largest interest in providing international shipping services; Category B for 10 states with the largest interest in international seaborne trade; and Category C for 20 states not elected under Category A or B that have special interests in maritime transport or navigation, and whose election to the Council will ensure the representation of all major geographic areas of the world.

FIRM SUPPORTER OF THE INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND LIGHTHOUSE AUTHORITIES



Mr Francis Zachariae, IALA Secretary-General, delivering his welcome address at the 23rd IALA e-Navigation Information Services and Communications Committee Meeting

Singapore is a firm supporter of IALA. A National Member of IALA since 1972, Singapore has contributed to, and played an active role in various IALA Committees including the E-Navigation Committee and the Vessel Traffic Services Committee, as well as their respective working groups. In particular, Singapore supports IALA's e-navigation development and implementation efforts. These efforts advance the safe, economic and efficient movement of vessels around the world.

In April 2019, Singapore hosted the IALA e-Navigation Information

Services and Communications Committee Meeting for the first time. The meeting formalised an implementation roadmap to guide the development and operationalisation of e-navigation capabilities.

Singapore is presently serving a four-year term (2018-2022) as an elected Council Member of IALA. Under the MPA-IALA Memorandum of Understanding (MOU), Singapore is supporting IALA's capacity-building efforts in navigational safety with a contribution of up to S\$1 million over five years (2019-2023).

LEADING THE ASEAN MARITIME TRANSPORT WORKING GROUP



Delegates at the 38th Maritime Transport Working Group

Singapore chaired the ASEAN Maritime Transport Working Group (MTWG) from 2018 to 2019.

As Chair, Singapore led discussions with ASEAN Member States, dialogue partners and the shipping community on advancing maritime transport programmes and initiatives under the Kuala Lumpur Transport Strategic Plan 2016-2025.

In addition, under Singapore's Chairmanship, ASEAN Member States adopted several key ASEAN instruments. They include the MOU on the Improvement of Safety Standards and Ship Inspection for Non-Convention Ships, the Guidelines for Safety Standards of Non-Convention Ships and the ASEAN Regional Oil Spill Contingency Plan.





STEERING THE PORT AUTHORITIES ROUNDTABLE



Ms Quah Ley Hoon, Chief Executive of MPA, delivering a presentation at the Port Authorities Roundtable 2019

MPA serves as the Secretariat of the Port Authorities Roundtable. Since its inauguration by MPA in 2015, the annual event fosters the exchange of ideas and best practices among port authorities. It encourages open dialogue to address issues of common interest, and seeks mutually beneficial collaborations in managing the evolving maritime landscape.

The theme of the 2019 edition of the Port Authorities Roundtable was 'Managing Disruptive Changes and Risks for Future-Ready Port'. The event gathered top executives of 15 participating port authorities, including first-time participants Abu Dhabi Port Company and Port of Seattle.

MPA's Chief Executive, Ms Quah Ley Hoon, delivered a presentation titled 'Innovation & Transformation: Building

the Port of the Future', which focused on digitalisation, disruption and decarbonisation in the maritime industry. Her presentation on MPA's DigitalOCEANS™ strategy to encourage Open or Common Exchange And Network Standardisation stirred great interest among the participants.

At the event, MPA's Chief Information Officer (CIO), Mr Koh Chin Yong, tabled the Port Authorities CIO Cybersecurity Network proposal. The proposal encouraged like-minded port authorities to collaborate as one network and operate on a set of standard information exchange operating procedures. The proposal was well received by the port authorities of Antwerp, Rotterdam, Kobe, Seattle, Long Beach, Abu Dhabi, Los Angeles and Hamburg.

PROTECTING SHIPS



Participants of the Capacity Building Executive Programme 2019

Singapore remains strongly committed to promoting and enhancing cooperation against piracy and armed robbery against ships. In line with this commitment, it is a founding member and one of the 20 Contracting Parties of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP). Staffed by a multinational team, the ReCAAP Information Sharing Centre - the operating unit of ReCAAP - is hosted in Singapore.

Singapore works closely with the ReCAAP Secretariat and all Contracting Parties on information sharing, capacity building and cooperative arrangements in addressing piracy and sea robbery. In September 2019, Singapore cooperated with ReCAAP and Japan to co-host the Capacity Building Executive Programme to foster networking and the sharing of best practices.

ROUNDTABLE ON STRATEGIES TO AUGMENT TSUNAMI MONITORING



Ms Loretta Hieber Girardet, Chief of Regional Office for Asia Pacific, United Nations Office for Disaster Risk Reduction, delivering her opening address

In August 2019, the MPA Academy and the United Nations Economic and Social Commission for Asia and the Pacific jointly organised the Roundtable on Maritime Sector Strategies to Augment Tsunami Monitoring with Economic, Safety and Environmental Co-Benefits.

The roundtable brought together experts from around the world to discuss the improvements in tsunami warning systems. In particular, it explored the role that commercial ships, offshore assets and undersea cables can play in increasing the coverage of tsunamigenic locations in Asia-Pacific.



ENGAGING MARITIME THOUGHT LEADERS

DISTINGUISHED VISITORS PROGRAMME



Mr R Agus H Purnomo (centre), Director-General of the Directorate General of Sea Transportation from the Republic of Indonesia, visiting Singapore under the Distinguished Visitors Programme

Launched in 1997, MPA's Distinguished Visitors Programme (DVP) seeks to engage eminent figures in the international maritime community who are prime movers and key opinion makers. The programme centres on establishing long-lasting relations with these personalities and their organisations, which in turn strengthen bilateral maritime relations.

In August 2019, Mr R Agus H Purnomo, Director-General of the Directorate General of Sea Transportation (DGST) from the Republic of Indonesia visited Singapore under the DVP. During his visit, Mr Purnomo delivered remarks at MPA's International Safety@Sea Conference 2019 and met with MPA's senior officers to discuss areas of cooperation between DGST and MPA.

APPOINTMENT OF MR STEEN LUND AS ADJUNCT FELLOW

To harness the rich experience and technical expertise of leaders in the maritime sector, the MPA Academy appoints top maritime professionals as adjunct fellows and trainers. They bring with them many years of valuable expertise and experience in a wide spectrum of areas such as ship management, terminal operations and port technology.

In 2019, the MPA Academy appointed Mr Steen Lund, Chief Commercial Officer and Group Chief Digital Officer

of Executive Ship Management, as its Adjunct Fellow. Mr Lund brings to the Academy over 30 years of distinguished maritime experience in leadership positions he held at prominent global companies like Maersk and DNV GL. With his extensive knowledge of shipping technologies and his close association with various technical committees of reputable institutions, Mr Lund offers a unique perspective on digital transformation in the maritime industry.



Mr Steen Lund,
Adjunct Fellow of the MPA Academy

ORAL HISTORY INTERVIEWS

The Maritime Singapore story is an important part of the history of Singapore and its people. To ensure that stories are documented and institutional knowledge is preserved, the MPA Academy conducts oral history interviews with key maritime pioneers and personalities.

In 2019, the MPA Academy recorded oral history interviews with prominent

maritime figures including Mr Teo Siong Seng, Executive Chairman and Managing Director of Pacific International Lines Pte Ltd; Mr Choo Chiau Beng, former Chief Executive Officer of Keppel Corporation; and Mr Ooi Boon Hoe, Chief Executive Officer of Jurong Port Pte Ltd.

Their accounts offer insights into key milestones in the development

of Singapore's maritime industry. These milestones include the early construction of Singapore's port, the growth of the maritime cluster, the development of the offshore and marine sector, and the industry's partnerships with tertiary education institutes.

PUBLIC LECTURES



Prof Lui Pao Chuen, Adviser to the National Research Foundation, Prime Minister's Office, sharing about Transforming Singapore into a Nation of Innovators

The MPA Academy regularly organises public lectures by prominent maritime industry leaders and academics to grow awareness of issues that the industry faces. In 2019, the MPA Academy held several talks spanning a wide range of topics including innovation in the maritime industry (presented by Professor Lui Pao Chuen) and cross-straits relations (presented by Professor Tommy Koh and Ambassador-at-large Bilahari Kausikan).

As an industry developer and a master port planner, MPA drives the growth of a vibrant maritime R&D and innovation ecosystem in Singapore. To transform the maritime industry, it is vital to forge ahead in maritime R&D and its commercialisation. Doing so maintains Singapore's competitive edge as a major global hub port and a leading international maritime centre.

Building on Singapore's standing as a maritime knowledge hub and a thought leader in the maritime domain, MPA seeks to impart its knowledge and share its expertise in maritime governance. Focusing on global maritime leadership development, MPA Academy – the training arm of MPA – runs flagship programmes and supports the training needs of the International Maritime Organization (IMO) to enhance the capabilities of developing nations in maritime policymaking.

CHAPTER FOUR

MARITIME KNOWLEDGE AND INNOVATION HUB



BUILDING MARITIME TECHNOLOGY ECOSYSTEMS AND CAPABILITIES

SINGAPORE R&D ROADMAP 2030: MARITIME TRANSFORMATION

In April 2019, MPA collaborated with the Singapore Maritime Institute to refresh the Maritime R&D Roadmap that was first developed in 2013. The refreshed Roadmap aims to deepen Singapore's maritime R&D capabilities, as well as strengthen the alignment of public and private sector research efforts with the needs of the industry. The R&D Roadmap sets out the pathways to anchor collaborative efforts across the maritime ecosystem in enabling its purposeful transformation.



Singapore R&D Roadmap 2030: Maritime Transformation



Dr Sanjay Chittarajan Kuttan, Executive Director of the Singapore Maritime Institute, delivering his remarks at the launch of the Singapore R&D Roadmap 2030: Maritime Transformation

Singapore R&D Roadmap 2030: Maritime Transformation's five key research thrusts:



Efficient and Intelligent World-Class Next-Generation Port



Strategic Sea Space and Maritime Traffic Management



Smart Fleet Operations and Autonomous Vessels



Effective Maritime Safety and Security



Sustainable Maritime Environment and Energy

MARITIME TRANSFORMATION PROGRAMME



Dr Lam Pin Min (standing centre), Senior Minister of State, Ministry of Transport and Ministry of Health, witnessing the signing of the Letter of Award on Maritime Transformation Programme White Space Funding Support for the Establishment and Operation of the Centre of Excellence for Autonomous and Remotely Operated Vessels: Dr Sanjay Chittarajan Kuttan (seated left), Executive Director of the Singapore Maritime Institute; Professor Chan Eng Soon (seated right), Chief Executive Officer of the Technology Centre for Offshore and Marine, Singapore; Mr Kenneth Lim (standing left), Senior Director (Innovation, Technology and Talent Development) of MPA; and Mr Frederick Chew (standing right), Chief Executive Officer of the Agency for Science, Technology and Research

The Maritime Transformation Programme (MTP) is a key vehicle to implement the Sea Transport Industry Transformation Map's Innovation thrust. It leverages the National Research Foundation's Research, Innovation and Enterprise Funds (RIE Funds) to grow industry R&D capabilities in collaboration with universities and research institutions. Together with industry contributions and RIE Funds, MPA makes funding available to support maritime innovation and R&D projects.

Under the MTP, two key developments took place in 2019.

The first was the launch of the Centre of Excellence for Autonomous and Remotely Operated Vessels (CEAOPS). Housed in the National University of Singapore's (NUS) Technology Centre for Offshore and Marine, CEAOPS

serves as the national focal point for research and development in Maritime Autonomous Surface Ships (MASS).

In building an enabling environment for the development of MASS technologies, MPA established guidelines (i.e. a regulatory sandbox) in 2019 for the conduct of MASS trials in local port waters. PSA Marine's and Wartsila's IntelliTug became the first to undergo sea trials in Singapore under these new guidelines.

Secondly, MPA, PSA Corporation Ltd and the Singapore Maritime Institute introduced the Maritime R&D Grant Call to support the R&D of automated systems and novel concepts that enhance terminal operations in the area of wharf-side coning and vessel-side lashing.



MARITIME INNOVATION LAB



VIP tour of the Maritime Innovation Lab



Under the MPA Living Lab initiative, MPA launched the Maritime Innovation Lab (MIL) to provide a physical and digital environment that enables the co-creation and test-bedding of innovative solutions by shipowners and operators, regulators, and marine services and technology providers. Its designated anchorages also facilitate the trials of marine drones, autonomous vessels and wireless communication technologies in the port environment.

The MIL houses technology innovations such as the Remotely Assisted Pilotage Advisory project and the shore stations of the Next Generation Vessel Traffic Management System innovation programme.

By attracting maritime technology companies such as Wartsila's Global Acceleration Centre to co-locate within the MIL, MPA also fosters the exchange of ideas across public and private domains.

PORT INNOVATION ECOSYSTEM REIMAGINED @ BLOCK71 (PIER71)



Dravam emerged victorious at Smart Port Challenge 2019 for its innovative fuel quality monitoring solution

Founded by MPA and NUS, through its entrepreneurial arm NUS Enterprise, PIER71 aims to grow Singapore's maritime innovation and start-up ecosystem. PIER71 boosts innovation in maritime-related industries by attracting talents, creating networking opportunities for the exchange of ideas, attracting investments for maritime start-ups and accelerating new corporate ventures. It designs and delivers programmes to uncover opportunities within the industry and supports entrepreneurs from ideation to the acceleration of their ventures.

In Smart Port Challenge 2019, an annual industry-wide initiative under PIER71, 24 start-ups were selected from among 200 applications to come up with solutions to 28 challenge statements. These challenge statements were identified by maritime companies in the areas of port operations, shipping and maritime services.

Rising to the challenge, the 24 start-ups – 15 of which are based locally – presented solutions involving technologies such as artificial intelligence, virtual and augmented reality, blockchain, robotics and wearables. Impressively, more than half of these start-ups received letters of support from maritime companies to develop and test their proposed solutions.

During the Grand Final of Smart Port Challenge 2019, 10 of the 24 start-ups pitched their solutions to an audience of over 300 investors, corporate partners, venture capitalists and maritime professionals.

Smart Port Challenge has been a powerful catalyst for maritime innovation. Since its inception in 2017, 32 start-ups have each obtained the MPA grant worth up to S\$50,000 to develop and test their innovative solutions with industry partners. Nine projects have since been successfully completed and deployed into operations.



Mr Ashutosh Prasad, Chief Executive Officer of KoiReader Technologies, delivering his pitch at Smart Port Challenge 2019; KoiReader Technologies came in second place for its innovative machine learning visual recognition system

CALL-FOR-PARTNERSHIP TO DRIVE INNOVATION IN MARITIME TECHNOLOGY



Dr Lam Pin Min, Senior Minister of State, Ministry of Transport and Ministry of Health, launching the Call-For-Partnership to drive innovation in maritime technology under the Startup SG Equity scheme

In November 2019, MPA and SEEDS Capital – the investment arm of Enterprise Singapore – launched a Call-For-Partnership to identify suitable investors that would jointly invest up to \$60 million in the maritime technology sector under the Startup SG Equity scheme. Shortlisted investors would co-invest in deep technology and early-stage maritime technology start-ups based in Singapore. They would also help to accelerate the commercialisation of early-stage start-ups through providing mentorship and network connections.



SINGAPORE MARITIME DATA HUB

In 2019, MPA became the world's first port authority to establish an open data-sharing platform when it launched the Singapore Maritime Data Hub (SG-MDH). The collaborative data-sharing platform facilitates the test-bedding and piloting of innovative digital applications and data-driven services such as a bunker delivery auto scheduling system and the booking of passenger boats through mobile applications.

205 developers signed up to SG-MDH in 2019. It recorded 70 million Application Programming Interface calls and made five million data points publicly available.



The MPA team winning the Public Sector Pro-Enterprise Initiative Award (Silver) for the Singapore Maritime Data Hub

GEOSPACE-SEA

Officially announced in conjunction with World Hydrography Day 2019, GeoSpace-Sea is a new national marine spatial data infrastructure that harnesses and harmonises Singapore's marine and coastal geospatial data and information from various sources.

Its adoption of open data standards promotes interoperability and enables users to integrate and overlay various marine, coastal and land data. This enhances the analysis and correlation of various geospatial data types, bridges the land-sea information gap and supports the development of a wide range of applications.

MPA, together with 11 other government agencies¹ and the NUS' Tropical Marine Science Institute, is developing GeoSpace-Sea in phases. The first phase of GeoSpace-Sea, which commenced in 2019, integrates hydrographic data, marine environmental data, coastline details and habitat information. When the first phase is completed, user agencies will be able to access a national repository of marine and coastal geospatial data from a central location and view the seabed in three dimensions.

In future phases, the initiative will be extended to institutes of higher learning and public user groups for marine

science research, incident reporting and the development of applications such as marine models and simulations.

When fully developed, GeoSpace-Sea will provide authoritative geospatial data for port, marine and coastal planning, marine science R&D, environmental management, marine conservation and climate change adaptation in a timely and efficient manner. In the long term, GeoSpace-Sea is envisioned to contribute to the global marine and coastal data ecosystem for sustainable development.



Dr Lam Pin Min, Senior Minister of State, Ministry of Transport and Ministry of Health, announcing the GeoSpace-Sea initiative in conjunction with World Hydrography Day 2019

¹ The 11 other agencies behind GeoSpace-Sea are the Building and Construction Authority; Centre for Liveable Cities; Housing & Development Board; JTC Corporation; National Environment Agency; National Parks Board; National Research Foundation; PUB, Singapore's National Water Agency; Singapore Food Agency; Singapore Land Authority; and Urban Redevelopment Authority.

ADDITIVE MANUFACTURING

In April 2019, MPA, the National Addictive Manufacturing Innovation Cluster and the Singapore Shipping Association initiated a market feasibility study on the use of additive manufacturing (AM) technology in the printing of marine parts.

Under an AM joint industry project consortium, DNV-GL and over 10 shipowners, operators and ship management companies developed a feasibility report that was revealed in October 2019 at the Global Maritime Forum. The report detailed the commercial and technical feasibility of AM in supplying commonly used marine parts. Compressor housings, fuel pump top covers, spindle guides and plunger barrels were among the 100 marine parts identified for possessing high technical feasibility and commercial viability for 3D printing.

The report also noted that the use of AM in printing marine parts could reduce logistics and inventory costs, improve service quality in the provision of marine parts and augment Singapore's role as an innovative and competitive hub.

The second phase of the AM initiative will comprise several joint industry projects involving shipowners and managers, service providers, AM technology providers and classification societies. It will focus on the printing, testing and installation of selected marine parts.



Market feasibility study on additive manufacturing for marine parts

MARITIME BLOCKCHAIN FORUM



Maritime Blockchain Forum 2019

MPA facilitates the sharing of the latest technological developments in the maritime sector by organising industry seminars such as the Maritime Blockchain Forum. Held in May 2019, the second Maritime Blockchain Forum brought together leading practitioners in the field of blockchain to discuss progress in the sector and encourage experimentation and collaboration. The event offered participants insights into the evolving landscape of blockchain technology and examined the possibilities and risks involved in adopting blockchain technology.



GLOBAL LEADERSHIP TRAINING

MARITIME LEADERSHIP DEVELOPMENT



Opening Ceremony of the third Advanced Maritime Leaders' Programme

MPA Academy repositioned itself in 2014 as a full-fledged academy with a focus on global maritime leadership development. Since then, the Academy has organised several runs of its three flagship programmes, namely the Advanced Maritime Leaders' Programme (AMLP), Maritime Public Leaders' Programme (MPLP) and Port Management Programme (PMP).

In 2019, MPA Academy conducted the sixth PMP for 27 port masters, harbour masters and middle managers from maritime and port authorities across Africa, Asia, the Caribbean, Europe, Latin America and Oceania. Key topics covered in the programme included maritime safety, port planning, digitalisation of the maritime industry, emergency preparedness and crisis communication.

MPA Academy also ran the ninth MPLP in 2019 for senior maritime administrators from 24 countries. For the first time, senior officials from Albania, Angola, Cameroon, Guyana,

Iraq, Mongolia, the Seychelles, Sri Lanka, and Trinidad and Tobago participated in the programme. The five-day course covered a comprehensive range of topics including shipping economics, maritime law, port performance improvement and development, as well as public leadership and governance.



Participants of the Port Management Programme learning about port technology at the Maritime Innovation Lab

During Singapore Maritime Week 2019, MPA Academy conducted the third AMLP for a record number of 29 C-suite maritime leaders. They included representatives from 26 countries across all regions and delegates from the IMO. The AMLP is MPA Academy's apex course that equips senior maritime officials with the skills and knowledge to lead and transform their organisations effectively in an increasingly complex and globalised environment. The programme has become a platform for senior maritime leaders to share best practices, gain policymaking insights and cooperate on a global level.



Delegates of the Maritime Public Leaders' Programme visiting the Singapore City Gallery

Under the Japan-Singapore Partnership Programme for the 21st Century, MPA collaborates with Japan Coast Guard to build the technical capabilities of developing countries in the maritime domain. In 2019, MPA and Japan Coast Guard jointly conducted the 12th Maritime Safety Management course for 22 maritime administrators from 16 countries at MPA Academy. The course equipped participants with knowledge on maritime safety policies and international regulations.



Participants of the Maritime Safety Management course visiting MPA's Port Operations Control Centre

SUPPORTING THE TRAINING NEEDS OF THE IMO



Delegates attending a workshop on the Implementation of IMO Conventions at MPA Academy

As a firm believer in developing human capital through capacity building, MPA supports the IMO's Integrated Technical Co-operation Programme that seeks to build the capabilities of developing countries in implementing international maritime regulations and standards.

Since the establishment of the Singapore-IMO Memorandum of Understanding on Third Country Training Programme in 1998, MPA has trained more than 2,000 maritime officials from over 90 countries from regions such as Asia, Africa, the Americas, the Caribbean, Middle East and the Pacific Islands.

In 2019, MPA and the IMO jointly organised four regional and national workshops on the IMO Member State Audit Scheme, Implementation of IMO Conventions, International Safety Management Code, and MARPOL Annex V and Port Reception Facilities.

QUALITY

MARITIME WORKFORCE

Developing the capabilities of maritime employees is key to sustaining Singapore's competitiveness and growth as a premier global hub port and a leading international maritime centre. MPA cooperates with stakeholders such as labour unions, Institutes of Higher Learning (IHLs) and government agencies to develop and enhance a diverse suite of maritime education and training programmes that caters to the needs of the industry.



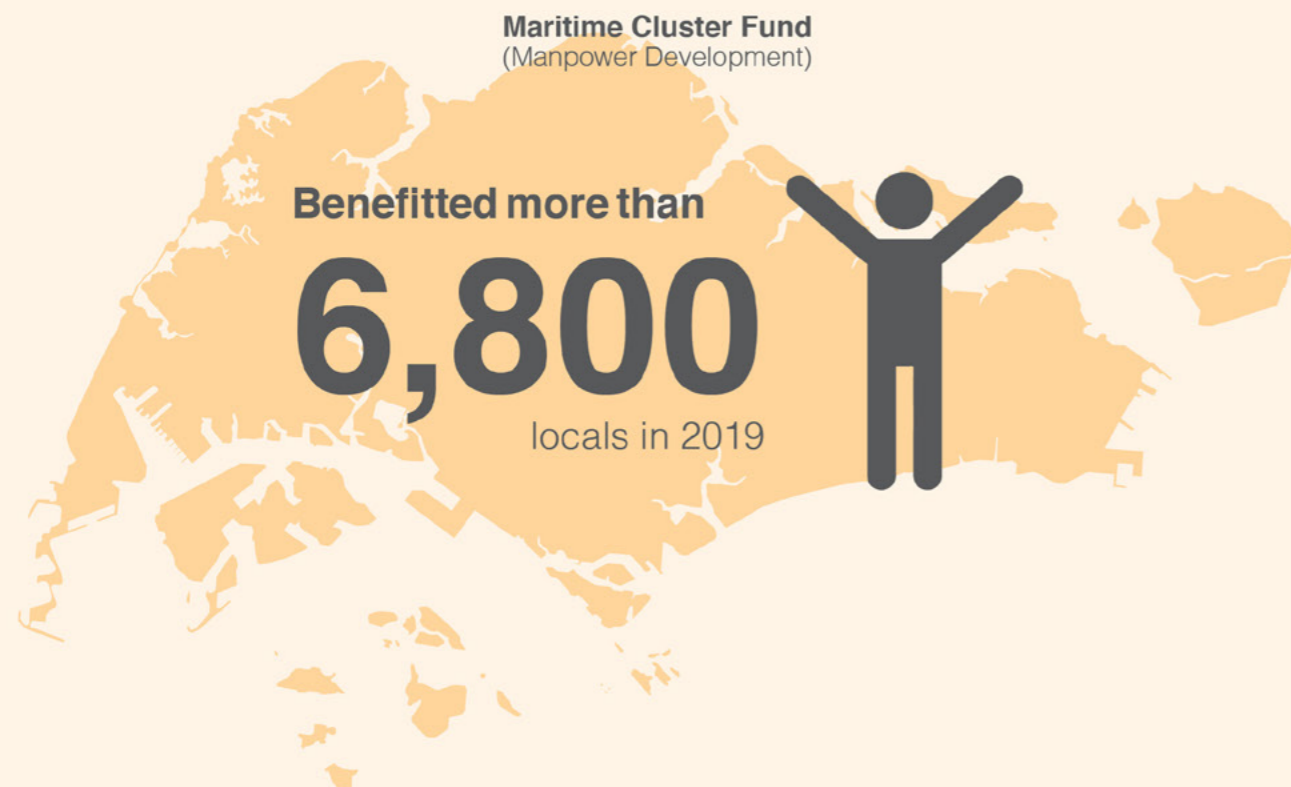


BOOSTING THE FUTURE-READINESS OF THE MARITIME WORKFORCE

MARITIME CLUSTER FUND

In line with the maritime industry's transformation efforts, MPA is committed to building a future-ready workforce with multi-disciplinary skills and a global mindset. Through the Maritime Cluster Fund, MPA equips Singapore's maritime workforce with essential skills to stay relevant as the industry evolves.

The Maritime Cluster Fund – Manpower Development (MCF-MD) co-funds companies and individuals seeking to develop their capabilities through training and reskilling. In 2019, more than 6,800 locals benefitted from MCF-MD co-funding.



COLLABORATION WITH SINGAPORE POLYTECHNIC

Aligned with the Ministry of Manpower's HR Industry Manpower Plan, MPA collaborated with Singapore Polytechnic to encourage maritime companies to adopt good HR practices that support the development of a future-ready workforce.

For example, MPA and Singapore Polytechnic worked with 'K' Line Pte Ltd to revise its performance management system and processes in 2019. The reforms improved

support for the company's growth and competency learning needs.

Similarly, in 2019, Equatorial Marine Fuel Management Services Pte Ltd received assistance from MPA and Singapore Polytechnic to review its HR processes. With the support rendered, the company not only developed performance management processes such as goal setting, appraisal and coaching, but also linked performance management to its benefits and compensation structure.

DEGREE PROGRAMMES



Dr Lam Pin Min (centre), Senior Minister of State, Ministry of Transport and Ministry of Health, witnessing the signing of the partnership agreement between Singapore Management University and Singapore Maritime Institute on the Maritime Business and Operations Track; Professor Lily Kong, President of Singapore Management University; Professor Annie Koh, Vice-President (Business Development) of Singapore Management University; Dr Sanjay Chittaran Kuttan, Executive Director of Singapore Maritime Institute; and Ms Tan Beng Tee, Assistant Chief Executive (Development) of MPA (from left to right)

To bridge the skills gap in the fast-evolving industry, MPA works closely with tertiary institutes to review the programmes they offer. In this way, graduates joining the maritime industry will possess the skills and knowledge required to address present and future challenges that the industry faces.

Following close collaboration with MPA and industry partners, Nanyang Technological University introduced an enhanced Bachelor of Science in Maritime Studies curriculum from the academic year of 2019/20. Key enhancements to the curriculum include the incorporation of new content in emerging topics such as Computational Thinking, Data Science, and Artificial Intelligence. The

internship programme will also be extended from 10 weeks to 20 weeks.

In addition, MPA and industry partners also worked closely with Singapore Management University (SMU) to restructure the curriculum of the Maritime Economics Track. Additional content on maritime operations, supply chains, and information and communications technology were incorporated into the curriculum. The revised programme was renamed the Maritime Business and Operations Track to reflect the new focus on commercial and operational knowledge. It now comes under the Operations Management major at SMU's Lee Kong Chian School of Business.



BUILDING CLEAR CAREER PATHWAYS AND A MARITIME TALENT POOL

MPA takes a proactive approach to building a steady pipeline of local maritime talents. Besides connecting students and jobseekers to maritime careers as well as education and training opportunities through the Maritime Singapore Connect Office, MPA cooperates with IHLs and training providers to develop and run programmes that equip students and maritime professionals with essential capabilities and skills.

WORK-STUDY DIPLOMAS

In 2019, the Work-Study Post-Diploma in Shipowning, Operating and Broking was launched to provide fresh polytechnic graduates with a head start in careers in the shipowning, operating and broking sectors. The programme was jointly developed by MPA and SkillsFuture Singapore (SSG), and administered by the Institute of Chartered Shipbrokers (Singapore Branch).

MPA also supported the Institute of Technical Education in its development of the Work-Study Diploma in Maritime Business Management. The programme prepares fresh graduates from the institute for ship agency roles. It also offers in-service employees at maritime companies an opportunity to deepen their knowledge and skills.

MPA GLOBAL INTERNSHIP AWARD



MPA Global Internship Award Presentation Ceremony 2019

MPA introduced the MPA Global Internship Award (GIA) in response to the industry's demand for multi-skilled talents with a global mindset. The award offers high-achieving students internships at maritime companies in both their Singapore and overseas offices. In 2019, a record number of 47 students received the GIA and undertook internships with more than 30 host companies to gain on-the-job experience and global exposure.

TRIPARTITE MARITIME SCHOLARSHIP



Proud recipients of the 2019 Tripartite Maritime Scholarship

Jointly sponsored by MPA, shipping companies and seafaring unions, the Tripartite Maritime Scholarship (TMSS) develops a pipeline of talent in the seafaring sector. It grooms promising students into Captains and Chief Engineers on board oceangoing merchant vessels.

In 2019, the TMSS received a boost with an additional S\$6.2 million commitment over the next five years from

2020 to 2024. To widen the pool of applicants, mid-term scholarships were also introduced from 2020.

17 students received the TMSS in 2019. To date, over 160 individuals have benefitted from the scholarship scheme.

SEA TRANSPORT PROFESSIONAL CONVERSION PROGRAMME

As the industry evolves, new job roles requiring new skills will emerge. In 2019, MPA continued to work closely with industry stakeholders and unions to support reskilling efforts that facilitate workforce transition.

In partnership with Workforce Singapore and SSG, MPA rolled out the Sea Transport Professional Conversion Programme in 2019 to facilitate the entry of mid-career professionals into growth areas of the maritime sector such as port services and operations, shipping and maritime services.

CHAPTER SIX

STRONG

MARITIME SINGAPORE
IDENTITY

As an industry champion, MPA strives to build a strong Maritime Singapore identity. A sterling Maritime Singapore brand raises the international profile of Singapore's maritime industry and strengthens Singapore's global influence in the maritime community. It also enhances the public image of the industry and generates interest in maritime careers.

MPA builds reputational capital for Maritime Singapore through a programme of strategic media and stakeholder engagement that anchors on telling the Maritime Singapore story, the transformative developments in the industry and why Maritime Singapore matters to Singaporeans.

To attract the next generation of maritime talents, MPA reaches out to the young through programmes such as the MPA Maritime Bus, Marine Clean-Up Day and the Singapore Maritime Dialogue. These programmes encourage youths to discover and experience the maritime sector in a fun, meaningful and interactive way. They reinforce the importance of Maritime Singapore and inspire young talents to join Singapore's vibrant maritime industry.



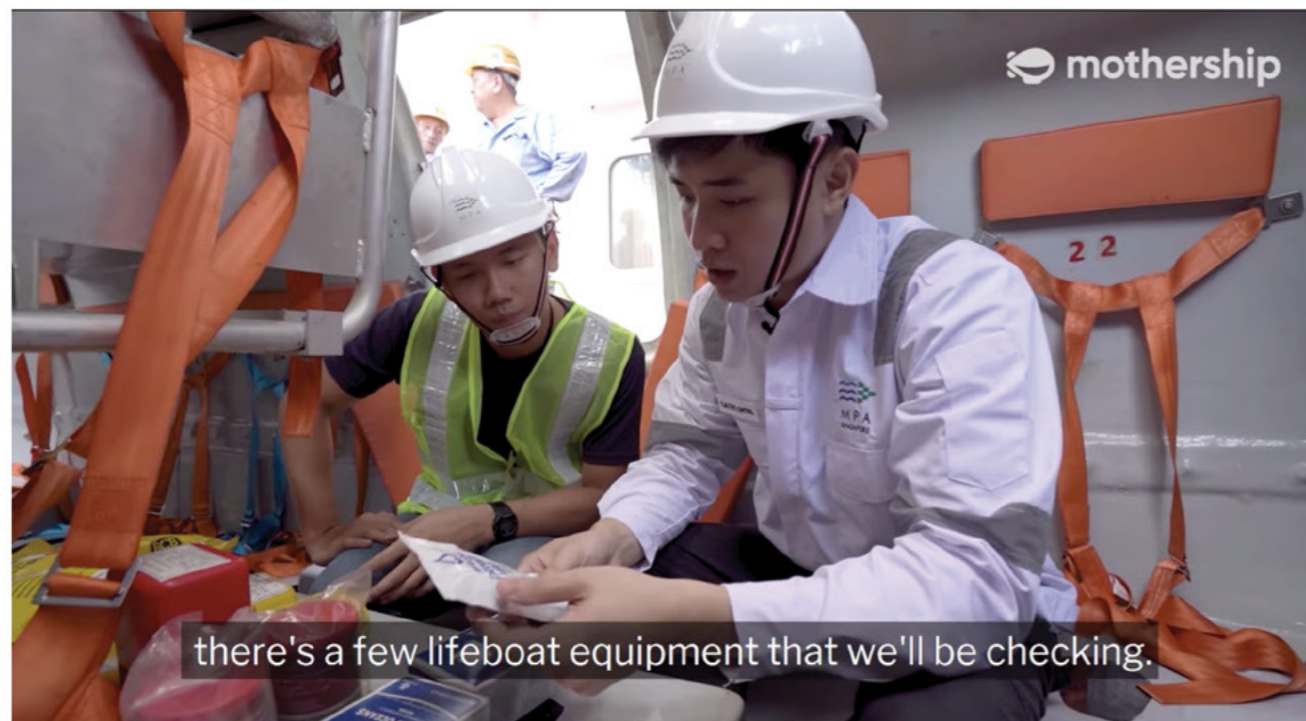
PROMOTING MARITIME SINGAPORE BRANDING

MARITIME SINGAPORE – VITAL, VERSATILE AND RESILIENT

In 2019, MPA ran several initiatives to promote Maritime Singapore as vital, versatile and resilient. They included a marketing campaign through out-of-home platforms such as public transport networks, and online channels like Facebook and other popular sites. MPA also collaborated with Mothership.sg, a local internet media company, on a video production that profiles a marine surveyor (a former seafarer) and his work in enforcing high standards of compliance amongst Singapore-registered vessels.



Maritime Singapore Promotional Campaign



Screenshot of collaborative video with Mothership.sg featuring MPA Marine Surveyor Mr Kong Yong Sheng

MY DEFINING MARITIME MOMENT

On the social media front, MPA concentrated on fostering an emotional connection between Singaporeans and Maritime Singapore.

MPA encouraged members of the public to share their stories of Singapore's maritime heritage and their personal maritime memories in the 'My Defining Maritime Moment' social media photography contest. Organised by MPA to celebrate Singapore Bicentennial, the contest brought out the significance of the maritime sector to Singapore's development since 1819 (or as early as 1300s), and its continued importance to the nation's growth.

MPA, in collaboration with online lifestyle publisher The Smart Local, marketed the contest through online content titled 'Expectations Vs Reality of Instagram Shots'. It also worked with online influencer Hpility to produce one-minute show reels on Singapore Bicentennial events.

In addition, MPA generated online buzz by presenting a series of organically branded content, animated clips and mini quizzes that delivered bite-sized information on Singapore's rich maritime heritage across MPA's social media channels.



Winners of the 'My Defining Maritime Moment' social media photography contest posing for a picture with Mr Baey Yam Keng, Senior Parliamentary Secretary, Ministry of Transport and Ministry of Culture, Community and Youth, and Ms Quah Iey Hoon, Chief Executive of MPA



Mr Ed Cheong, one of the winners of the 'My Defining Maritime Moment' contest, explaining the inspiration behind his entry

SINGAPORE NAUTILUS

MPA's corporate publication, Singapore Nautilus, offers up-to-date and engaging content on the maritime sector. Available online, in print, and via smartphone app SG Nautilus, Singapore Nautilus reaches out to over 3,000 stakeholders including members of the local and international maritime community, port and marine officers, government agencies and academic institutions.

MPA produced three issues of the magazine in 2019. Issue 43 examined Singapore's growth from a trading post to a global maritime hub. Issue 44 reviewed key happenings during Singapore Maritime Week 2019, while issue 45 highlighted the issue of gender diversity in the maritime industry.





Panelists at the Singapore Maritime Lecture 2019 (left to right): Mr Andreas Sohlen-Pao, Chairman of BW Group Ltd and Singapore Maritime Foundation (moderator); Ms Edith Yeung, Partner of 500 Startups; Mr Chan Chun Sing, Minister for Trade and Industry; Mr Teo Siong Seng, Managing Director of Pacific International Lines; and Mr Samuel Tsien, Group CEO of OCBC Bank.

SINGAPORE MARITIME WEEK

Each year, MPA spearheads the Singapore Maritime Week (SMW). Recognised for its thought leadership, this highly anticipated international maritime event offers the industry insights on pressing issues facing the maritime community. It also serves as a platform for MPA to showcase Singapore's vibrant maritime cluster to the public and the international maritime community.

As the leading international maritime show, SMW has been attracting an increasing number of participants since its inception in 2006.

In 2019, over 50,000 participants attended the 36 SMW business, networking and public outreach events, which centred on the theme of 'Driving Connectivity, Innovation and Talent'.

A distinctive feature of SMW 2019, which ran from 6 to 14 April, was the inclusion of events that appealed to participants from outside the maritime industry. For instance, the fourth Singapore Maritime Technology Conference – a focal event of SMW 2019 – welcomed technology providers and representatives from investment companies, insurance firms and start-ups to discuss topics such as digitalisation, cybersecurity and research and development in the maritime industry.

During the 13th Singapore Maritime Lecture, Mr Chan Chun Sing, Minister for Trade and Industry, delivered the keynote address "Whither Singapore as a Maritime Hub?".

He shared about global and regional developments in the maritime industry. This was followed by a panel discussion with key industry leaders that addressed the challenges faced by the maritime sector.

Notably, Sea Asia returned for its seventh edition in SMW 2019. This anchor maritime exhibition and conference brought the industry together at the Global Forum to address the challenges posed by geopolitics, technological disruption and regulatory pressures.

In support of Singapore Bicentennial, the SMW 2019 Exhibition (Bicentennial Edition) took visitors on a journey to Singapore's past, present and future. Bringing Singapore's maritime heritage to life, the public exhibition offered access to archival photographs, first-person recounts and interactive exhibits on the evolution of the Port of Singapore. A highlight of the exhibition was the multi-touch 'Next Generation Port' exhibit featuring technology and innovations in the port of the future.

In addition, participants of the Amazing Maritime Challenge raced across the island against time to learn about Singapore's maritime developments.

Moving ahead, with the thoughtful curation of quality maritime events and programmes, the annual SMW will continue to raise Singapore's profile as a major global hub port and a leading international maritime centre.



1. Sea Asia Opening Ceremony
2. Panelists at the Sea Asia Global Forum discussing pressing issues the maritime industry faces (left to right): Mr Søren Toft, Member of the Executive Board and Chief Operating Officer, A.P. Moller-Maersk; Mr Andreas Sohlen-Pao, Chairman of BW Group and Singapore Maritime Foundation; Mr Erck Rickmers, Chairman of E.R. Capital; Mr Tan Chong Meng, Group CEO of PSA International; and Mr Teymooz Nabili, Journalist, Broadcaster and Managing Editor of The Signal Asia (moderator)
3. VIP tour of the SEA Asia Exhibition
4. Dr Lam Pin Min, Senior Minister of State, Ministry of Transport and Ministry of Health, delivering the opening address at the Singapore Maritime Technology Conference
5. Mr Khaw Boon Wan, Coordinating Minister for Infrastructure and Minister for Transport, joined by senior representatives of the Ministry of Transport, MaritimeONE agencies and unions at the Opening Ceremony of Singapore Maritime Week 2019
6. Flag-off at the start line of the Amazing Maritime Challenge 2019



COMMUNITY ENGAGEMENT

SINGAPORE MARITIME TRAILS



Mr Baey Yam Keng, Senior Parliamentary Secretary, Ministry of Transport and Ministry of Culture, Community and Youth, and Ms Tan Beng Tee, Assistant Chief Executive (Development) of MPA, launching Singapore Maritime Trail 3: 'Our Legacy'

In March 2019, MPA launched Singapore Maritime Trail (SMT) 3 in conjunction with Singapore Bicentennial. The 2.5-hour 'Our Legacy' trail brings participants on a journey to discover the connection between Singapore's maritime activities and the country's diverse cultures.

The trail covers two precincts - Telok Ayer and Kampong Glam - where early migrants arrived by sea and established local communities. The trail encourages participants to reflect on Singapore's maritime past and how it has shaped the way of life in Singapore. It also pays tribute to the pioneers who laid the foundations of Singapore as a maritime nation.

SMT 3 runs alongside SMT 1 and SMT 2. SMT 1 'Our Heritage' explores Singapore's maritime history, while SMT 2 'Our Progress' examines the developments in Maritime Singapore.



Mr Baey Yam Keng, Senior Parliamentary Secretary, Ministry of Transport and Ministry of Culture, Community and Youth, joining students from Nanyang Technological University on Singapore Maritime Trail 3

MPA-OUR SINGAPORE REEFS PARTNERSHIP ON MARINE CONSERVATION



MPA and Our Singapore Reefs organised an underwater clean-up exercise to mark World Oceans Day



A volunteer diver surfacing with trash collected underwater

MPA and Our Singapore Reefs, a non-profit group, marked World Oceans Day on 8 June by embarking on a three-year collaboration to promote marine biodiversity in Singapore.

To kick off the partnership, 20 volunteer divers participated in an underwater clean-up exercise organised in the waters around Lazarus Island. They

retrieved about 140 pieces of marine debris, which weighed around 75kg, and sorted them for proper disposal. The data gathered on marine debris was compiled and reported to Project AWARE's citizen-science programme, Dive Against Debris®, to support the development and implementation of policies that improve solid waste management around the world.

In partnership with MPA, Our Singapore Reefs also organised a community talk on marine conservation for around 80 participants at the Singapore Maritime Gallery. The engagement session raised awareness of the adverse impact of marine debris on our environment and encouraged the public to play a part in protecting the marine environment.

MPA MARITIME BUS

Launched at Canberra Secondary School in conjunction with Singapore Bicentennial, the MPA Maritime Bus offers members of the public and students aged seven to 16 an immersive experience into Singapore's maritime past, present and future. The roving bus promoted Singapore's rich maritime heritage, revealed exciting developments in the maritime sector and inspired young Singaporeans to join the industry.

Visitors discovered Singapore's past as a trading post where goods such as silk, tea, porcelain and spices were exchanged. They also learnt about the contributions of early settlers such as Hajjah Fatimah Sulaiman and Seah Eu Chin. In addition, the Bus featured the first container port in Southeast Asia and its significance to Singapore as a transshipment

hub. At the Bus exhibition, visitors also caught a glimpse of the next-generation Tuas Port and the use of advanced technologies such as drones, automated guided vehicles and autonomous ships.

Students in schools that hosted the Bus were treated to a pre-programme skit telling the story of a lighthouse keeper and his daughter. They also completed supplementary activity booklets to reflect on the content featured in the Bus exhibition.

In addition, members of public attended stop-motion workshops at selected community spaces that hosted the Bus, and enjoyed hands-on experience producing maritime-themed animation clips.



MPA Maritime Bus



Mr Khaw Boon Wan, Coordinating Minister for Infrastructure and Minister for Transport, joining students and teachers from Canberra Secondary School, seafaring cadets from the Singapore Maritime Academy and guests at the MPA Maritime Bus



SINGAPORE MARITIME DIALOGUE



Panelists at the Singapore Maritime Dialogue sharing about digital disruption and careers in the maritime industry (left to right): Mr Michael Phoon, Executive Director of Singapore Shipping Association (moderator); Mr John Hahn, CEO and Co-Founder of Ocean Freight Exchange; Dr Lam Pin Min, Senior Minister of State, Ministry of Transport and Ministry of Health; Ms Melissa Kee, Chief Human Resources Officer of Kuok Singapore Ltd; and Mr Richard Koh, Chief Technology Officer of Microsoft Singapore

The sixth edition of the Singapore Maritime Dialogue attracted 300 students from the Institute of Technical Education, junior colleges, polytechnics, and universities. It featured a lively panel discussion on the theme of 'Maritime Singapore in the Age of Digitalisation'. Participants exchanged views on the digital revolution taking place in the maritime industry with invited panellists comprising Guest-of-Honour, Dr Lam Pin Min, Senior Minister of State for Ministry of Transport and Ministry of Health; Mr John Hahn, Chief Executive Officer and Co-Founder of Ocean Freight Exchange; Mr Richard Koh, Chief Technology Officer of Microsoft Singapore; and Ms Melissa Kee, Chief Human Resources Officer of Kuok Singapore Ltd.

The panel discussion focused on the way that technology in the shipping sector has evolved. Students also had a lively discussion on attracting young talents to the maritime industry as the sector undergoes digital transformation.



Mr John Hahn, CEO and Co-Founder of Ocean Freight Exchange, sharing about digitalisation trends in the maritime industry and the role of technology as an enabler of growth

MARINE CLEAN-UP DAY



Group of volunteers at the Marine Clean-Up Day



Volunteers sorting out the marine trash collected



A stand-up paddler picking up floating debris

'Clean-Up on Kayak' was renamed 'Marine Clean-Up Day' to reflect the growing diversity of partners and participants, as well as the increasing comprehensiveness of the marine conservation programme.

MPA, in partnership with International Coastal Cleanup Singapore, organised 120 volunteers to remove marine trash across Singapore. At East Coast Park, 50 public volunteers used litter-picking tools provided by the Public Hygiene Council to gather litter and microplastics on the beach. 20 stand-up paddlers from the Surfing Association Singapore and 30 volunteer kayakers cleared floating debris in coastal waters. Furthermore, 20 divers from Our Singapore Reefs removed debris in the waters around Lazarus Island.

In total, 240kg of marine debris was collected, sorted and recorded for data research purposes.

Additionally, members of local fishing community Marine Stewards Singapore committed to clearing trash when out at sea or at the beach.



BAZAAR BY THE PIER

Bazaar by the Pier, which commemorated Singapore Bicentennial, was held at Marina South Pier in November 2019 to promote public appreciation of Singapore's maritime heritage and the significance of the maritime sector in the everyday lives of Singaporeans.

Themed 'Past, Present and Future of Maritime Singapore', the public event was opened to visitors of all ages. It featured food stalls, activity stations and educational booths on marine environmental protection. Visitors received activity booklets that encouraged them to explore the Singapore Maritime Gallery and Marina South Pier to learn about Singapore's maritime industry.

Besides guided tours of the Singapore Maritime Gallery, participants joined an illustration class with Singaporean artist Lee Xinli, as well as a photography and social media content creation workshop. In addition, some participants also travelled along the Singapore Strait to observe port operations while learning about the navigational aids and vessels in our waters. Young visitors, meanwhile, were captivated by the free craft activities and storytelling sessions at the Singapore Maritime Gallery.

As part of the event, the winning entries of the 'My Defining Maritime Moment' social media contest were displayed in the Singapore Maritime Gallery from 9 November 2019 to 31 March 2020.



Anthony The Spice Maker sharing about spice trade in early Singapore



Mr Baey Yam Keng, Senior Parliamentary Secretary, Ministry of Transport and Ministry of Culture, Community and Youth, learning about the environmental harm to marine life caused by microplastics



Storytelling at the Singapore Maritime Gallery



Tour of the Singapore Maritime Gallery

MPA LEARNING JOURNEYS

During SMW, participants of the MPA Learning Journeys (SMW edition) visited Raffles Lighthouse to learn about the significance of Singapore's offshore lighthouses (Lighthouse Tour). In addition, participants of the Sea Tour traversed the busy Singapore Strait and observed the operations of Singapore's port terminals.



Participants of the MPA Learning Journey visiting Raffles Lighthouse

MARITIME OUTREACH FUND

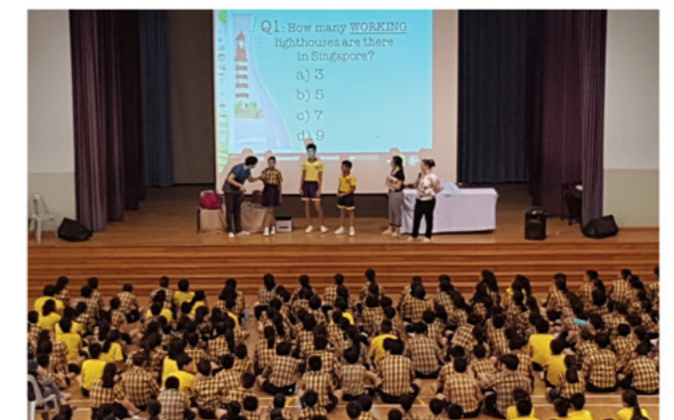


Winners of the National Maritime Case Competition, Team Sashimi (National University of Singapore), receiving the top prize from Ms Geraldine Cheang, Assistant Director (Engagement) of MPA (left)

Under the Maritime Outreach Fund, a public funding initiative, MPA collaborates with community groups to bring maritime ideas to life. The goal of the programme is to ignite passion for Maritime Singapore in the community.

In 2019, the Maritime Outreach Fund underwrote three projects.

The first project was the Nanyang Technological University's National Maritime Case Competition, which explored the topic of digitalisation in the maritime industry.



Students of Admiralty Primary School participating in 'The Lighthouse' drama skit's Q&A segment

The Maritime Outreach Fund also supported 'The Lighthouse', a travelling drama skit for schools that was produced by local theatrical company The Voice Productions.

Finally, the Maritime Outreach Fund sponsored MPA x EYEYAH! Sea Issue, an educational magazine that used eye-catching artwork to discuss maritime issues such as marine environmental protection, ocean exploration and marine life. The magazine aimed to nurture the creativity and social emotional development of children.



SINGAPORE MARITIME GALLERY

The Singapore Maritime Gallery, located at Marina South Pier, tells the story of Singapore's development as a global hub port and an international maritime centre. It is a key platform for MPA to reach out to the public to promote Singapore's maritime industry and cultivate interest in maritime professions.

In 2019, the Gallery hosted students for the ninth edition of the nationwide Sirpigel Tamil Language Festival and delegates of the 26th Intelligent Transport Systems World Congress. MPA also hosted the Closing Reception of the World Congress on Maritime Heritage at the Singapore Maritime Gallery.



Dr Koji Sekimizu, Secretary-General Emeritus of the International Maritime Organization, and Ms Quah Ley Hoon, Chief Executive of MPA, interacting with guests at the Closing Reception of the World Congress on Maritime Heritage

Other highlights of the Gallery's calendar in 2019 include the following events:

Maritime Nation Forum 2019

The inaugural Maritime Nation Forum made its debut at the Singapore Maritime Gallery. Held in conjunction with Total Defence Day, the Forum was jointly organised by MPA, the Republic of Singapore Navy and NEXUS, the Ministry of Defence's Central National Education Office.

It featured a dialogue session between Mr Chan Chun Sing, Minister for Trade and Industry, and an audience of 100 youths and professionals from the maritime and security sectors. The discourse focused on the challenges that Singapore faces as a maritime nation, and the vital role that Singapore's maritime sector plays in the defence and economic success of the nation.



Mr Chan Chun Sing, Minister for Trade and Industry, engaging in a dialogue session with youths and professionals from the maritime and security sectors at the inaugural Maritime Nation Forum

Changing Exhibition: 'Sampan Girl Smiles'

The Singapore Maritime Gallery turned back time with an exhibition of 100 black and white photographs from the collection of David Waters, a Royal Navy officer who made several trips to Asia in the 1930s. 'Sampan Girl Smiles' takes visitors on a journey to the maritime world of the past with photographs of traditional sailing junks and historical ports in Southeast Asian countries including Singapore. The photographs offered a tantalising glimpse into the folk customs associated with fishing, boat repair, vessel launch ceremonies, prayers and other unique local maritime traditions of that era.



Mr Khaw Boon Wan, Coordinating Minister for Infrastructure and Minister for Transport, touring the 'Sampan Girl Smiles' exhibition at the Changing Gallery

Imagine Ocean Hackathon

In June 2019, the Singapore Maritime Gallery buzzed with creative energy as artists, seafarers, designers, academics, marine biologists, youths and seniors collaborated to present cross-disciplinary performances in 'Hack Lab II: Imagine Ocean'. Co-presented by MPA and Arts Fission, a Singapore-based contemporary dance company, the two-day Hackathon also featured MPA Marine Surveyor Mr Kong Yong Sheng, who shared about his experiences as a former seafarer. The event helped to grow the conversation on the importance of our oceans and the meaningful life at sea.



Cross-disciplinary discussion at Hack Lab II: Imagine Ocean (photograph by Arts Fission)

SINGAPORE BICENTENNIAL ROADSHOWS

As part of Singapore Bicentennial commemoration activities, MPA collaborated with the Singapore Bicentennial Office to participate in roadshows held at North East, North West and South West community districts. The roadshows shared the story of Singapore's maritime past, present and future, while promoting awareness of the industry's contributions to the nation's development.

MPA-MOE RESOURCE PACKAGE



Screenshots of the MPA-MOE resource package comprising a two-part video series



To engage young minds in critical enquiry, MPA collaborated with the Ministry of Education (MOE) to develop the Upper Secondary Social Studies and Geography Resource Package.

This two-part video series helps students understand the complex process of globalisation and its trade-offs. It also

encourages students to appreciate the decision-making process behind the nation's responses to the impact of globalisation.

The curriculum-aligned resource package is available on Student Learning Space, MOE's digital learning portal for students.

MARITIME CORNER

The Maritime Corner at Fort Canning is MPA's first permanent outdoor exhibition displaying interesting nuggets of information about Maritime Singapore. It tells the story of the importance of Fort Canning in early maritime trade and its significance as a navigational landmark for guiding ships into the Port of Singapore.

Refreshed in 2019, the Fort Canning Lighthouse replica dazzled visitors with its modular interactive piano installation titled 'Keys of Light'. Created by Netherlands-based projection art studio Mr Beam, 'Keys of Light' revealed unique and captivating visual compositions each time the piano was played. This art installation was featured in the Singapore Bicentennial i Light Festival.



'Keys of Light' installation at the Maritime Corner (photograph by National Parks Board)

CHAPTER SEVEN

CULTURE OF EXCELLENCE



MPA champions a culture of excellence centred on service distinction and innovation. It pursues a sustainable strategy underpinned by sound and robust governance, financial, social and environmental policies.

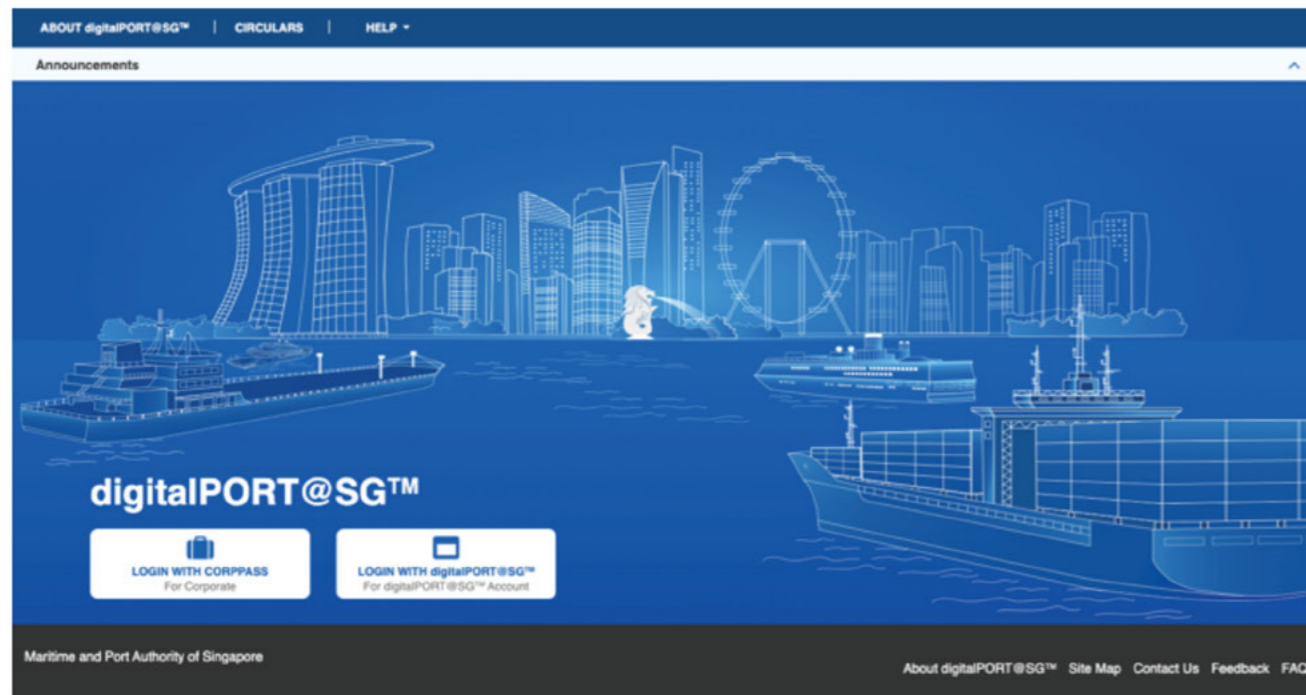


PURSUING SERVICE EXCELLENCE

MPA places customers at the core of service delivery. It consistently seeks feedback to understand the needs and concerns of customers. To improve service quality, MPA incorporates the insights and expectations of customers gathered from the feedback process into the design of MPA's touchpoints and services. In this way, the customer experience is consistent and positive across all customer segments.

One outcome of the feedback process is MPA's channel migration efforts, which are aligned with the whole-of-government approach to go 'Digital to the Core, and Serve with Heart'. Channel migration efforts have improved customer experience, and enhanced productivity, efficiency and teamwork in MPA.

digitalPORT@SG™ is one example of MPA's channel migration efforts. In 2019, MPA launched the maritime single window that serves as a one-stop portal for maritime regulatory and port services transactions. digitalPORT@SG™ streamlines vessel, immigration and port health clearances across the Immigration and Checkpoints Authority, the National Environment Agency (NEA) and MPA into a single application by consolidating up to 16 separate forms. Ship agents can now submit, track and receive approvals for arriving and departing ships through the portal. When the next phase of digitalPORT@SG™ becomes available, customers can look forward to using digitalPORT@SG™ as an online shopfront for the booking of marine services.



digitalPORT@SG™

In addition, MPA has made its services at the One Stop Document Centre digitally available on Marinet. Customers can now transact with MPA anytime and anywhere, from the comfort of their homes or at their offices using any smart mobile devices.

In 2019, MPA also launched its customer relationship management system, COMPASS. Serving as a centralised

information bank for customer engagement, COMPASS provides MPA with a holistic view of its customers and enables frontline officers to deliver a One-MPA customer experience. The system is linked directly to the Online Feedback Form, which customers can complete to submit their queries instead of searching for specific departments and officers to email their queries to.

MPA'S VALUES



InnovFest 2019

The values of Forward thinking, Integrity, Respect, Service Excellence and Teamwork, or FIRST values, guide behaviours and practices in MPA. They shape decision-making and foster a desired workplace culture.

Held annually, Values Week celebrates and instils FIRST values among its officers. To this end, the 2019 edition of Values Week featured activities including InnovFest, the

Innovation Challenge and learning journeys to the Singapore Mobility Gallery and Oversea-Chinese Banking Corporation. During Values Week 2019, MPA officers also participated in a Corporate Governance briefing, a lunchtime talk on the 'Heart of Success' and a workshop on 'writing like a pro'. Additionally, the Senior Management team attended a 'Learning Together' workshop. These activities cultivate FIRST values in MPA officers at all levels.



Innovation Challenge 2019



Learning journey to the Land Transport Authority's Singapore Mobility Gallery



Workshop on writing like a 'PRO'



Lunchtime talk on the 'Heart of Success'



OUR INNOVATION EXCELLENCE AWARD (IEA) JOURNEY

MPA did not rest on its laurels after being conferred the Singapore Quality Award in 2016. It continued on its excellence journey by embracing innovation – critical to the transformation of Maritime Singapore. In 2019, MPA clinched the IEA, which not only validated MPA's transformation efforts to date, but also rallied stakeholders in Maritime Singapore to embrace innovative transformation.

Besides affirming MPA's innovation capabilities in driving maritime transformation, clinching the IEA was testament to

the robust partnerships MPA had forged with stakeholders over the years to build a vibrant maritime ecosystem. These stakeholders include port operators, industry associations, unions, institutes of higher learning and research institutions.

As an organisation that places innovation at the heart of its transformation strategy, MPA will continue investing in innovation to address evolving challenges in the operating environment. It will also work closely with its partners to meet the transformational needs of the maritime industry.



Ms Quah Ley Hoon (second from right), Chief Executive of MPA, accepting the Innovation Excellence Award from Mr Chan Chun Sing (second from left), Minister for Trade and Industry; Dr Ang Hak Seng (left), Chairman of the Singapore Quality Award Management Committee; and Professor Cham Tao Soon (right), Chairman of the Singapore Quality Award Governing Council



Site assessment for the Innovation Excellence Award



MPA Senior Management team and assessors the Innovation Excellence Award at the Port Operations Control Centre for pre-site assessment

CORPORATE GOVERNANCE

ORGANISATION AND STRUCTURE

MPA is an autonomous agency instituted by Parliament under the MPA Act. The Board, headed by a non-executive Chairman, sets broad strategic directions for the MPA to realise its mission and fulfil its roles. Appointed by the Minister for Transport for a three-year term, Board Members include MPA's Chief Executive, senior officials from the public sector, and industry representatives across the maritime sector. The present MPA Board commenced its three-year term on 2 February 2018.

Since MPA was formed in 1996, several Board Committees have been established to oversee and assist in setting directions and policies in key areas of MPA's activities. The MPA Board comprises the following Board Committees:



Audit Review Committee



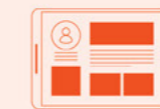
Data and Cybersecurity Committee



Investment Committee



MINT Fund Steering Committee



Registration Committee



Senior Personnel Board



Welfare Committee for Seafarers

Board Meetings are held on a bi-monthly basis to deliberate and approve key matters relating to governance, operations, policy and sustainability. They cover the key material issues addressed in this Report.

MPA's 16 divisions are headed by divisional Directors or Senior Directors, who are responsible for managing the

day-to-day operations of their divisions. MPA's Senior Management team, comprising the Chief Executive, Assistant Chief Executives as well as divisional Directors and Senior Directors, is accountable to the Chairman of the MPA Board and to the Permanent Secretary of the Ministry of Transport.

DISCLOSURE ON COMPENSATION

The remunerations for the MPA Board and the Senior Management team are pegged to guidelines of the Public Service Division.

In 2019, the ratio of the total compensation for the MPA Board and Senior Management to that of all employees was 0.07.



RISK MANAGEMENT PROCESS

In 2019, MPA reviewed its Enterprise Risk Management framework for identifying and controlling the risks that could derail MPA from achieving its mission. Following the review, MPA fine-tuned its risk assessment criteria and revised its mitigation measures to ensure their continued effectiveness. The MPA Board approved the revised risk assessment criteria and focus areas in July 2019. MPA will continue to review its risk management processes regularly.

MANAGING STRATEGIC RISKS

The maritime industry faces a growing cybersecurity threat. As such, a key focus of MPA's strategic risk management is enhancing the cyber-resilience of the maritime sector's critical information infrastructure.

To strengthen its cybersecurity posture, MPA launched the Maritime Cybersecurity Operations Centre in 2019. The Centre conducts round-the-clock monitoring of cyber threats and enhances MPA's response capabilities. In

To reinforce a robust culture of risk management, MPA continues to build the risk management knowledge and competencies of its officers through training. It also communicates key risk issues and shares lessons learnt through Risk Digest – a regular e-newsletter published by MPA's Internal Audit Department.

addition, MPA took the lead in initiating the Port Authorities Chief Information Officer Cybersecurity Network. The proposed network will garner whole-of-community efforts to prepare for and respond to cybersecurity threats.

Moving forward, MPA will employ data analytics to monitor risk indicators and develop insights on MPA's risk management performance.



Maritime Cybersecurity Operations Centre: Mr Teo Chin Hock, Deputy Chief Executive (Development) of Cyber Security Agency of Singapore; Mr Vincent Chong, President and Chief Executive officer of ST Engineering; Mr Niam Chiang Meng, Chairman of MPA; Ms Quah Ley Hoon, Chief Executive of MPA; and Mr Ravinder Singh, President of ST Engineering Electronics (left to right)

SUPPLIER MANAGEMENT

MPA works with diverse suppliers to implement projects and support key activities. It collaborates with contractors, consultants and other suppliers to develop solutions for MPA and the maritime industry.

In its procurement activities, MPA adheres to the following key principles laid down for government procurement:

- Transparency – MPA subscribes to an open and transparent procurement regime across all stages of its procurement lifecycle. Whenever possible, MPA's procurement objectives, criteria and procedures are made known to suppliers.
- Open and fair competition – MPA provides suppliers with equitable access opportunities to compete on a level playing field. Such an open and competitive environment will encourage suppliers to give their best offers; and
- Value for money – MPA derives value for money from the optimal balance of benefits and costs by taking into consideration factors such as suitability for the intended

purpose, quality and reliability of the goods or service, innovation and adaptability, sustainability and the total cost of ownership. Where appropriate, considerations of value for money may include the achievement of economic, social and environmental objectives. MPA also considers the adoption of procurement approaches and processes that are effective, efficient and proportional to the value and risks involved when implementation capacity, time constraints and cost effectiveness are taken into account. As such, value for money does not necessarily mean that a tender must be awarded to the lowest bidder.

All business partners, consultants, suppliers and contractors of MPA must adhere to safety control measures and adopt fair employment practices.





COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY

ECO-OFFICE

As an organisation committed to environmental sustainability, MPA strives to create an environmentally friendly office. It first attained Eco-Office certification in 2011 for its PSA Building office. Subsequently, MPA's offices in Tanjong Pagar Complex and PSA Vista were Eco-Office certified. The Singapore Environment Council (SEC) awards the Eco-Office Certification to organisations that implement environmentally friendly practices effectively in their workplaces.

In 2019, MPA continued to raise awareness of environmental sustainability among its officers. At MPA's inaugural Eco Day, for instance, officers participated in activities including upcycling workshops and an upcycling collection exercise to learn about the roles they can play in observing environmental sustainability.

During Values Week, MPA worked with the SEC on an eco-exhibition to impart knowledge on green consumerism to officers. Through eco-themed email messages and posters, MPA also encouraged its officers to adopt eco-friendly habits such as avoiding the use of disposable cups and utensils in the office.

Additionally, MPA carried out an exercise to collect used power banks to educate officers on the proper disposal of e-waste. It also organised an eco-learning tour to Siloso



Beach Resort in Sentosa for officers to learn about the environmentally friendly technologies and green practices at the resort.

MPA constantly looks for ways to carry out procurement in an environmentally friendly manner. It has stopped purchasing disposable cups and stirrers for its pantries. However, since disposable cups are still required in meeting rooms for visitors, MPA provides cups made of biodegradable CornWare.

MPA also adopts environmentally friendly practices when running events. For example, caterers for MPA events must provide CornWare utensils, cups and plates.

In 2019, no significant negative environmental and social impact was identified in MPA's supply chain.



Eco-exhibition on green consumerism

PAPER MANAGEMENT

The amount of paper MPA recycled more than doubled from 12,209kg in 2018 to 25,078kg in 2019.

The paper used for copiers in MPA's offices, as well as many of its publications and collaterals, are certified to have been produced from responsibly managed forests. These certifications include Programme for the Endorsement of Forest Certification and Forest Stewardship Council certification.

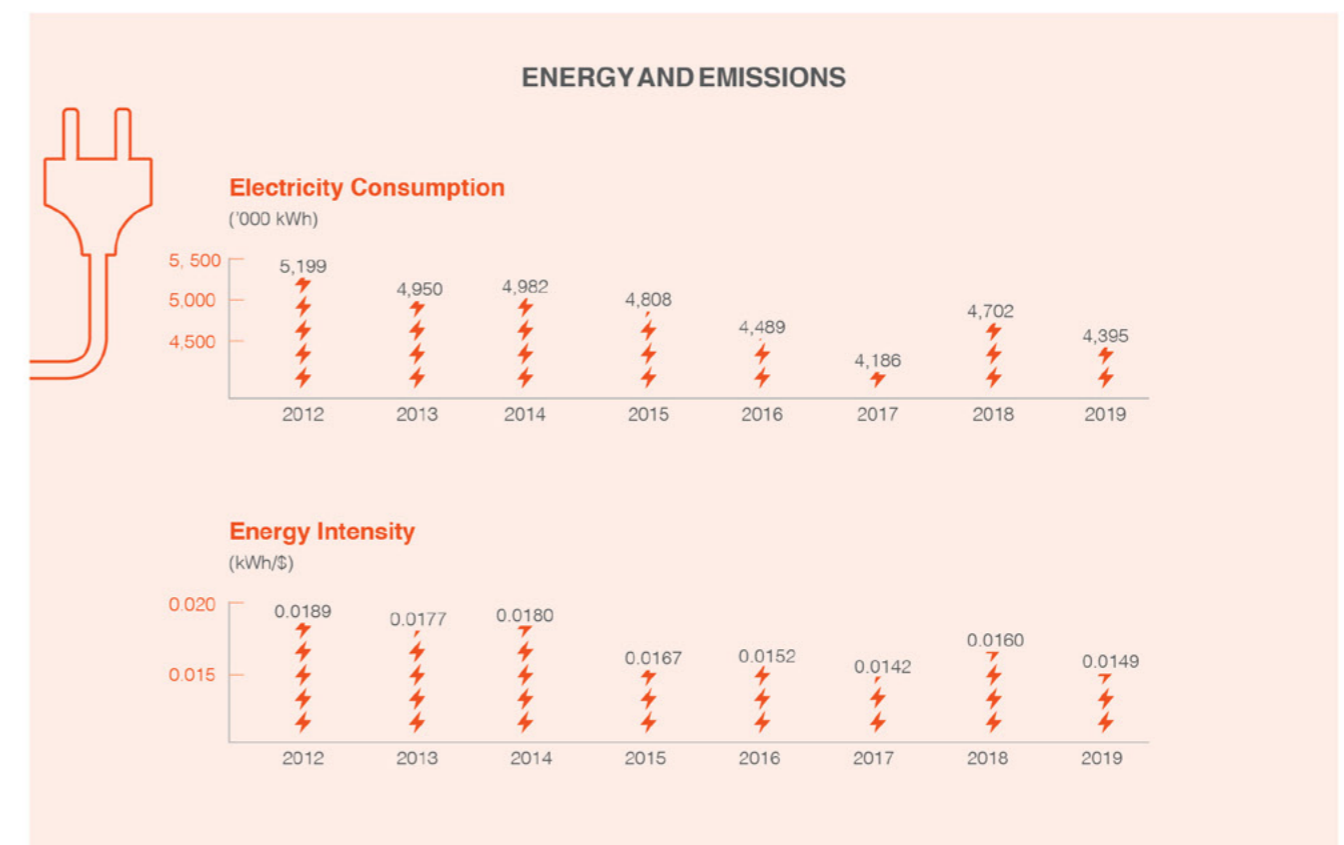
In addition, MPA reduced its usage of paper in several ways. As part of MPA's move towards a paperless office, officers were encouraged to digitise existing hardcopy documents and store them in MPA's e-filing system. Hardcopy documents were then collected for recycling. Furthermore, MPA stopped printing paper files and ring files with the implementation of e-filing. It also ceased issuing hardcopy office planners and diaries to staff to reduce paper waste.

PUBLIC SECTOR TAKING THE LEAD IN ENVIRONMENTAL SUSTAINABILITY (PSTLES)

MPA supports the PSTLES 2.0 initiative and its targets. The initiative is spearheaded by the Energy Efficiency Programme Office, a multi-agency committee led by NEA and the Energy Market Authority.

Taking guidance from PSTLES 2.0, MPA has set a target of reducing energy by 3 per cent and water consumption by 1 per cent each year.

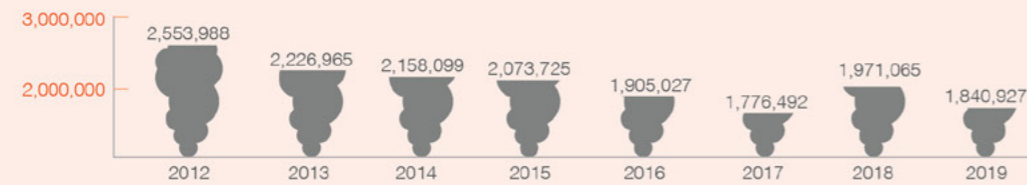
To achieve its energy efficiency targets, MPA has progressively replaced the air-conditioning system at its Port Operations Control Centres with energy-saving systems that meet Green Mark certification standards. In 2019, as part of its levels 18 and 19 office renovations at PSA Building, MPA installed energy-saving lights and air-conditioning systems. With the new installations, electricity consumption is expected to fall by 2 to 3 per cent for the MPA office at PSA Building.





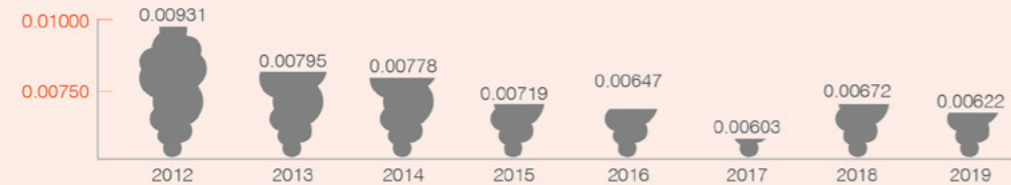
GHG Emissions*

(kgCO₂)



GHG Emissions Intensity

(kgCO₂/\$)

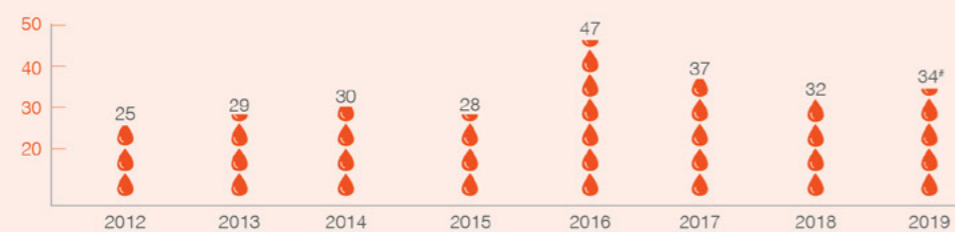


* Calculated based on Yearly Electricity Grid Emission Factor published by the Energy Market Authority

WATER CONSUMPTION

Water Consumption

('000 m³)

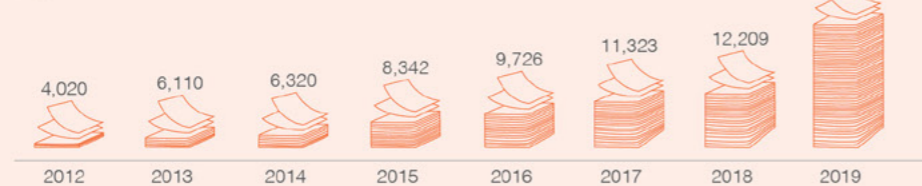


* The rise in water consumption is due to the increased occupancy rate at Maritime House, as well as an increase in watering needs for the new landscaping features along both sides of the linkway from Marina South Pier to Marina Bay Cruise Centre Singapore.

RECYCLING

Weight of Paper Collected

(kg)



INK CARTRIDGES RECYCLED

(Units)



AWARDS RECEIVED IN 2019

Date	Name of Award	Description
01 May 2019	National Trade Union Congress (NTUC) May Day Awards: Plaque of Commendation (Gold)	The NTUC May Day Awards are bestowed upon individuals and companies that have made significant contributions to the labour movement. Following its nomination by NTUC, MPA was conferred the Plaque of Commendation (Gold). The award was a testimony of MPA's commitment to promoting strong labour-management relations. It recognised MPA's consistent support and outstanding contributions to labour movement initiatives.
03-04 June 2019	MPA ISO 9001:2015 Corporate Re-certification	MPA successfully completed the second year surveillance audit for ISO 9001:2015, a standard for quality management systems. MPA met the requirements of ISO 9001:2015 standards following an independent assessment by auditors of the accredited certification body. In 2019, MPA achieved its best performance with 17 Good Points, 2 Improvement Opportunities and 0 Non-compliance.
18 June 2019	Asian Freight, Logistics and Supply Chain (AFLAS) Awards: 'Best Seaport in Asia' and 'Best Green Seaport'	Organised by freight and logistics publication Asia Cargo News, the AFLAS Awards honour organisations that display leadership as well as consistency in service quality, innovation, customer relationship management and reliability. Award winners are determined by votes cast by readers of the publication. Singapore was crowned the 'Best Seaport in Asia' for the 31st time at the 2019 AFLAS Awards ceremony held in Hong Kong. In addition, the Port of Singapore was also named the 'Best Green Seaport'.
18 July 2019	Exemplary Innovator Award	The Exemplary Innovator Award – a category of the Public Sector Transformation Awards – commends exemplary officers or teams that have demonstrated innovation and made a real difference to their stakeholders. The Tuas Port Development project won the Exemplary Innovator Award for its large-scale adoption of alternative materials such as those dredged from fairways and basins within the project site for the reclamation of Tuas Port.



Team MPA winning the Exemplary Innovator Award. Er Tham Wai Wah, Chief Engineer/Senior Director (Engineering & Project Management) of MPA; Ms Cheong Yiting, Senior Engineer (Port and Industry Integration Department) of MPA; Mr Loh Ngai Seng, Permanent Secretary, Ministry of Transport; Mr Albert Cheng Sai Keong, Deputy Director (Tuas Port Reclamation 1) of MPA; Ms Quah Ley Hoon, Chief Executive of MPA; and Mr Eugene Khoo, Deputy Director (Tuas Port Reclamation 2) of MPA.



AWARDS RECEIVED IN 2019

Date	Name of Award	Description
09 August 2019	National Day Awards	<p>The Singapore National Day Awards recognise various forms of merit and service to Singapore. MPA is proud of the following award recipients:</p> <p>The Public Administration Medal (Bronze):</p> <ul style="list-style-type: none">• Capt Charles Alexandar De Souza <p>The Commendation Medal:</p> <ul style="list-style-type: none">• Calvin Lee Shiuh Kwong <p>The Efficiency Medal:</p> <ul style="list-style-type: none">• Mohamed Hanafie Bin Palal• Tan Kim Poh <p>The Long Service Medal:</p> <ul style="list-style-type: none">• Capt Heng Fok Yong Henry• Aidil Suraya Bte Mohamed Salleh• Zakaria Bin Abdullah• Lee Kok Keong• Ong Kim Choo

29 August 2019	ShipTek International Awards – Port Authority of the Year	ShipTek International Awards are prestigious accolades in the marine, offshore and oil and gas sectors. MPA was declared Port Authority of the Year at ShipTek International Awards 2019.
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Capt Daknashamoorthy S/O Ganaseen (right), Senior Director (Operations & Marine Services) of MPA receiving the ShipTek International Awards – Port Authority of the Year on behalf of MPA

12 September 2019	International Seafarers' Welfare Awards – Port of the Year	The International Seafarers' Welfare Awards recognise excellence in welfare provision for seafarers. The awards enable seafarers to express their appreciation to companies and organisations that have offered them excellent welfare facilities and services.
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Ms Tan Beng Tee (left), Assistant Chief Executive (Development) of MPA, received the International Seafarers' Welfare Awards – Port of the Year on behalf of MPA

The Port of Singapore was named Port of the Year at the 2019 edition of the International Seafarers' Welfare Awards. MPA works closely with diverse partners to enable seafarers to optimise their time when they call at the Port of Singapore. For instance, MPA cooperates with the Singapore Organisation of Seamen to provide on-demand bus services. MPA also organises learning tours for seafarers to visit places of interest in Singapore. It also provides round-the-clock medical advice and evacuation for seafarers requiring immediate medical attention.

MPA channels the Maritime Welfare Fees it collects from vessels calling at the Port of Singapore wholly towards improving welfare facilities and services for seafarers.

AWARDS RECEIVED IN 2019

Date	Name of Award	Description
08 October 2019	Innovation Excellence Award (IEA)	<p>The IEA recognises organisations for their outstanding innovation capabilities.</p> <p>MPA was conferred the IEA at the 25th Business Excellence Awards Dinner. Winning this award affirmed MPA's innovation capabilities in driving maritime transformation. It was also testament to the successful partnerships MPA had forged with stakeholders over the years to build a vibrant maritime ecosystem. These stakeholders included port operators, industry associations, unions, institutes of higher learning and research institutions.</p>



Team MPA winning the Innovation Excellence Award

08 October 2019	Charity Gold Award	The Charity Awards recognise organisations and individuals for their donations to Community Chest. These donations come from sources including funds raised through charity events and contributions from Community Chest's monthly-giving programme SHARE.
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In 2019, MPA received the Charity Gold Award for donating S\$234,382 to Community Chest (the qualifying donation for the Charity Gold Award is between S\$200,000 and S\$299,999). Of this amount, S\$15,912 was contributed through SHARE.

26 November 2019	Public Sector Pro-Enterprise Initiative Award (Silver)	The Pro-Enterprise Panel-Singapore Business Federation (PEP-SBF) Awards 2019 recognises the collaborative efforts of government agencies and private companies in enhancing Singapore's business environment.
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MPA was conferred the Public Sector Pro-Enterprise Initiative Award (Silver) for the Singapore Maritime Data Hub. The award recognises public sector officers or teams that have initiated pro-enterprise changes to improve service delivery and reduce business compliance costs.

The Singapore Maritime Data Hub is a pro-enterprise initiative that enables one-stop data sharing and service integration for maritime-related businesses, community platforms and government systems via a centralised Application Programming Interface gateway. It also provides a collaborative platform to enhance digital connectivity across the maritime industry.



AWARDS RECEIVED IN 2019

Date	Name of Award	Description
26 November 2019	PEP Best Suggestion (Supporting Agency) Award	<p>At PEP-SBF Awards 2019, MPA was also conferred the PEP Best Suggestion (Supporting Agency) Award. The award recognised MPA's efforts in reviewing the feedback on regulations for the Floating Donut.</p> <p>MPA introduced safeguards to address concerns such as safety issues and pollution arising from the operation of the Floating Donut. Following MPA's implementation of a six-month regulatory sandbox, the Floating Donut was permitted to continue its operations.</p>



Floating donut (photograph by The Floating Donut Company)

13 January 2020	Minister's Innovation Award	<p>The Minister's Innovation Award promotes and rewards innovation within the Ministry of Transport (MOT) and its statutory boards.</p> <p>In 2019, MPA received awards for the following projects:</p> <ul style="list-style-type: none">• Distinguished Award: Singapore Maritime Data Hub• Distinguished Award Special Mention (Social Media Category): 'My Defining Maritime Moment' social media campaign• Merit Award: Policy impact study of Maritime Cluster Fund
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13 January 2020	Value-For-Money Achievement Award	<p>The Value-For-Money Achievement Award encourages agencies in the MOT family to develop projects that achieve value for money in their organisations.</p> <p>MPA's winning projects in 2019 are as follows:</p> <ul style="list-style-type: none">• Distinguished Award: Alternative scour protection system• Merit Award: Interfacing reclamation profile to ease port construction• Special Mention: Enhancement of credit management policy and processes
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MPA'S AWARDS MILESTONE 1996 – 2018

1996-1998	1999	2000	2001	2002
Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Seaport in Asia Award	Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Seaport in Asia Award Culture of Excellence <ul style="list-style-type: none">• Singapore Quality Class Choice Employer <ul style="list-style-type: none">• SAF Award for Employers• Singapore Health Award	Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Bunkering Policy Award• Best Seaport in Asia Award Choice Employer <ul style="list-style-type: none">• SAF Award for Employers• Singapore Health Award	Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Bunkering Policy Award• Best Seaport in Asia Award Culture of Excellence <ul style="list-style-type: none">• Singapore Quality Class Choice Employer <ul style="list-style-type: none">• SAF Award for Employers• Singapore Health Award	Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Bunkering Policy Award• Best Seaport in Asia Award Maritime Knowledge & Innovation Hub <ul style="list-style-type: none">• Intelligent20 Award• MOT Minister's Innovation Award Choice Employer <ul style="list-style-type: none">• People Developer
2003	2004	2005	2006	2007
Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Seaport in Asia Award Maritime Knowledge & Innovation Hub <ul style="list-style-type: none">• CIO 100 Honourees 2003• Enterprising Agency Award• Intelligent20 Award• MOT Minister's Innovation Award Culture of Excellence <ul style="list-style-type: none">• Public Service Milestone Award• Singapore Quality Class	Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Seaport in Asia Award• Seatrade Award for Safety at Sea Maritime Knowledge & Innovation Hub <ul style="list-style-type: none">• Enterprising Agency Award• MOT Minister's Innovation Award Culture of Excellence <ul style="list-style-type: none">• Community Chest Award Choice Employer <ul style="list-style-type: none">• MHA Award for NSmen's Employers• SAF Award for Employers• Singapore Health Award	Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Seaport in Asia Award Maritime Knowledge & Innovation Hub <ul style="list-style-type: none">• Enterprising Agency Award• MOT Minister's Innovation Award Strong Partnerships <ul style="list-style-type: none">• PEP-SBF Pro-Enterprise Award	Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Seaport in Asia Award Maritime Knowledge & Innovation Hub <ul style="list-style-type: none">• MOT Minister's Innovation Award• The Enterprise Challenge Public Service Innovation Award Culture of Excellence <ul style="list-style-type: none">• Singapore Quality Class Strong Partnerships <ul style="list-style-type: none">• PEP-SBF Pro-Enterprise Award	Safe, Efficient & Sustainable Global Hub Port <ul style="list-style-type: none">• Best Seaport in Asia Award Maritime Knowledge & Innovation Hub <ul style="list-style-type: none">• MOT Minister's Innovation Award Strong Partnerships <ul style="list-style-type: none">• PEP-SBF Pro-Enterprise Award Choice Employer <ul style="list-style-type: none">• Home Team NS Awards for Employers (Special Award)

2008

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award
- Best Seaport (ASEAN)
- Environment Protection Award (Joint award with NewEarth Pte Ltd)
- Port Authority Award (Seatrade Asia Award)

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award

Strong Maritime Singapore Identity

- Convention of the Year Award

Strong Partnerships

- PEP-SBF Pro-Enterprise Award

Choice Employer

- May Day Model Partnership Award
- Singapore Health Award

2009

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award

Strong Maritime Singapore Identity

- Trade Conference of the Year Award

Culture of Excellence

- Singapore Quality Class

Strong Partnerships

- PEP-SBF Pro-Enterprise Award

Choice Employer

- May Day Model Partnership Award

2010

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award
- Port Authority Award (Seatrade Asia Award)
- Port of the Year Award

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award

Culture of Excellence

- Community Chest Award

Strong Partnerships

- PEP-SBF Pro-Enterprise Award

Choice Employer

- Honorary Member of the Minister for Defence Awards League
- Singapore Health Award

2011

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award

Safeguard Strategic Maritime Interests & An Influential Voice

- Norwegian Business Association (Singapore) Award

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award

Culture of Excellence

- Eco-Office Certification

Strong Partnerships

- PEP-SBF Pro-Enterprise Award

Choice Employer

- MHA Award for NSmen's Employers
- People Developer

2012

Safe, Efficient & Sustainable Global Hub Port

- Best Green Service Provider – Seaport
- Best Seaport in Asia Award

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award

Quality Maritime Workforce

- The International Committee on Seafarers' Welfare Award – Drop-in Centre of the Year

Culture of Excellence

- Community Chest Award
- Public Service Milestone Award

Strong Partnerships

- PEP-SBF Pro-Enterprise Award

Choice Employer

- MHA Award for NSmen's Employers
- Singapore Health Award

2013

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award
- Environmental Campaign of the Year Award
- Port of the Year Award

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award
- MOT VFM Achievement Award

Culture of Excellence

- Singapore Quality Class Star

2014

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award
- MOT VFM Achievement Award

Quality Maritime Workforce

- International Seafarers' Welfare Awards 2014 (1 of 5 finalists)
- MPA Academy achieved accredited VTS training centre status by IALA

Culture of Excellence

- Corporate ISO Certification

2015

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award

Maritime Knowledge & Innovation Hub

- MTI Innovation Award
- MOT Minister's Innovation Award
- MOT VFM Achievement Award

Strong Maritime Singapore Identity

- 29th International ARC Awards
- Gold Tabbie Award

Culture of Excellence

- Eco-Office Re-certification
- Happy Toilet Re-certification

- International Convention on Quality Control Circle 2015
- PEP-SBF Pro-Enterprise Award
- PS21 ExCEL Awards – Most Innovative Project/ Policy
- PS21 Star Service Team Award
- Singapore Apex CSR Awards (Small and Medium Organisations Category)
- Singapore Innovation Class
- Singapore Service Class
- Singapore Sustainability Awards 2015 (Large Enterprise)
- Singapore Environmental Achievement Award 2015

2016

- Special Events Platinum Award
- Team Excellence Symposium 2015

- PEP-SBF Pro-Enterprise Award

Strong Partnerships

- PEP-SBF Pro-Enterprise Award

Choice Employer

- May Day Model Partnership Award
- NS Advocate Award
- People Developer

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award
- Green Ports Award System Top 50
- Engineering Feats @ IES-SG50 Award

Maritime Knowledge & Innovation Hub

- CAPAM International Innovations Awards (one of the semi-finalists)
- MOT Minister's Innovation Award
- MOT VFM Achievement Award

Strong Maritime Singapore Identity

- 2016 ARC Awards

Culture of Excellence

- 6th Asia Best CSR Practices Awards 2016
- ASEAN Corporate Sustainability Summit and Awards 2016
- Asia Responsible Entrepreneurship Award
- ComChest Special Events Gold Award
- Eco-Office Re-certification
- International SeaKeepers Society Asia Achievement Award
- PS21 ExCEL Award: Most Innovative Project/Policy
- PS21 Star Service Team Award
- Singapore Quality Award

Strong Partnerships

- PEP-SBF Pro-Enterprise Award

2017

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia Award

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award
- MOT VFM Achievement Award

Strong Maritime Singapore Identity

- 23rd Annual Communicator Awards
- 2017 Galaxy Awards

Culture of Excellence

- ComChest Corporate Gold Award
- Eco-Office Re-certification
- European Society for Quality Research Quality Achievements Awards 2017

- Golden Peacock Global Award for Sustainability
- International Best Practice Award
- MPA ISO 9001:2008 Corporate Re-certification
- PS21 Star Service Team Award
- Public Service Premier Award

Strong Partnerships

- PEP-SBF Pro-Enterprise Award
- Public Sector Pro-Enterprise Initiative Award

2018

Safe, Efficient & Sustainable Global Hub Port

- Green Ports Award System
- GREEN4SEA Awards
- Maritime 2020 & LNG Asia Summits

Maritime Knowledge & Innovation Hub

- 6th International Best Practice Competition
- CAPAM International Innovations Awards
- Caterpillar and INFORMS Analytics Society Innovative Applications in Analytics Award
- MOT Minister's Innovation Award 2018
- MOT VFM Achievement Award
- New Silk Road CEO of the Year Awards 2018

Quality Maritime Workforce

- International Seafarers' Welfare Award – Port of the Year

Strong Maritime Singapore Identity

- Public Sector Transformation Awards

Culture of Excellence

- Asian Freight Logistics and Supply Chain Awards
- Charity Bronze Award
- MPA ISO 9001: 2015 Corporate Re-certification
- National Day Awards 2018

Strong Partnerships

- Honorary Fellowship by the Institute of Chartered Shipbrokers
- PEP-SBF Pro-Enterprise Award

2019

Safe, Efficient & Sustainable Global Hub Port

- Best Seaport in Asia
- Best Green Seaport
- ShipTek International Awards – Port Authority of the Year
- Exemplary Innovator Award

Maritime Knowledge & Innovation Hub

- MOT Minister's Innovation Award
- MOT VFM Achievement Award

Quality Maritime Workforce

- International Seafarers' Welfare Awards – Port of the Year

Culture of Excellence

- Charity Gold Award
- Innovation Excellence Award
- MPA ISO 9001: 2015 Corporate

- Re-certification
- National Day Awards 2019

Strong Partnership

- PEP Best Suggestion (Supporting Agency) Award
- Public Sector Pro-Enterprise Initiative Award

Choice Employer

- NTUC May Day Awards

MPA is an enabling partner to maritime stakeholders. It provides strong business support to maritime companies, while adopting technology to enhance service delivery to its customers. In addition, MPA's partnerships with industry associations, unions and institutes of higher learning establish a powerful web of collaboration, co-creation and cooperation in the maritime industry.

CHAPTER EIGHT

STRONG PARTNERSHIPS





STRONG BUSINESS SUPPORT

WORK PLAN SEMINAR 2019

As part of industry transformation efforts, MPA recognises the need to intensify collaboration with its network of stakeholders to bolster the competitiveness of Maritime Singapore. Underscoring the importance of strong partnerships, MPA anchored its 2019 Work Plan Seminar around the theme of "Transformation through Stronger Partnerships". Over 500 guests from the public and private sectors, including industry leaders and MPA officers, attended the event.

In her inaugural Work Plan Seminar address, Ms Quah Ley Hoon, Chief Executive of MPA, shared MPA's upcoming plans and initiatives. She emphasised the importance of forging strong partnerships and achieving more with greater collaboration.



Ms Quah Ley Hoon, Chief Executive of MPA, delivering her inaugural Work Plan Seminar address

SUPPORTING NEW COMPANIES AND GROWING MARITIME BUSINESSES

MPA renders assistance to maritime companies setting up their businesses in Singapore and expanding their operations from the country.



The Maritime Sector Incentive grants tax concessions to qualifying companies that build and expand their maritime operations in Singapore.



Qualifying shipping enterprises enjoy withholding tax exemption on qualifying payments for ship and container financing.



The Maritime Cluster Fund (Business Development) supports companies that establish new maritime operations or expand into new lines of maritime businesses in Singapore, as well as those that internationalise their businesses.

ENHANCING CAPABILITIES

MPA helps Singapore-based maritime companies train their workers, develop local talent and enhance productivity.



The Maritime Cluster Fund (Manpower Development) co-funds courses as well as structured training and experiential learning programmes for local employees of maritime companies.



The MPA Global Internship Award enables companies to tap on a pool of top university undergraduates through MPA-sponsored internship programmes.



The Maritime Cluster Fund (Productivity Development) supports maritime companies in streamlining business processes and adopting technology solutions for productivity improvements.



The Tripartite Maritime Scholarship helps shipping companies secure talents in seafaring roles.



Work-Study Diplomas offer in-service employees opportunities to deepen their knowledge and skills, while growing a pool of graduates for roles in the shipping sector.



The Tripartite Maritime Manpower Task Force for Seafarers Achievement Award encourages Singaporeans to pursue seafaring careers and undergo training to enhance their skills. It improves the retention of seafaring talents.



The Sea Transport Professional Conversion Programme helps companies tap on the expertise of mid-career professionals outside the maritime domain by facilitating their entry into growth areas of the maritime sector.



The Maritime Innovation and Technology Fund supports research and development on maritime product and solutions in Singapore.



The Sea Transport Industry Digital Plan offers local small-medium enterprises funding for pre-approved maritime technology solutions that streamline business processes and enhance operational efficiency.



ENHANCING BUSINESS WORKFLOW AND OPTIMISING BUSINESS COSTS

MPA streamlines the workflow and ensures a cost-competitive business environment for maritime companies.

Simplifying billing and payment processes



Waiver of security deposit/banker's guarantee requirement for qualifying entities when they open an account with MPA



Scheduled alerts to water suppliers and private wharfage customers for their monthly declaration of transaction to MPA



Paperless billing and cashless payments by customers



Flat fee payment option introduced to owners of Singapore-registered ships for registration and crewing-related services under the Annual Administrative Fee Scheme

Maintaining a cost-competitive business environment



Port dues concessions for container ships, vessels handling transshipment vehicles, LNG-fuelled harbour craft and Green Port Programme-registered vessels that engage LNG-fuelled harbour craft for port operations



Waiver of the Maritime Welfare Fee for vessels with port stays of five days or less

E-APPLICATIONS

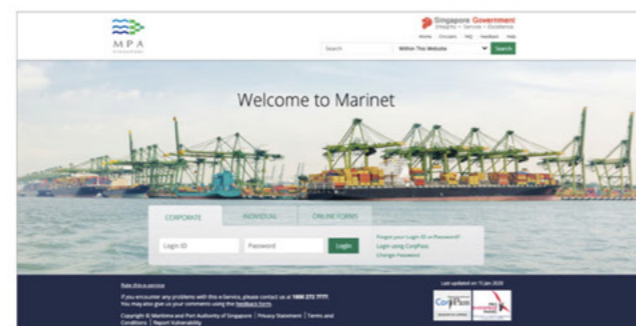
By the end of 2019, all services provided by MPA's One Stop Document Centre (OSDC) at Tanjong Pagar Complex were made available on Marinet – an online e-commerce system MPA developed for the maritime community.

For instance, customers can now submit their new craft applications via Marinet anytime at their own convenience. Previously, customers had to make their applications in person at the OSDC. Similarly, a craft seller can now initiate a change of ownership through Marinet, with the buyer receiving an email notification to complete the transaction online. Previously, both buyers and sellers were required to be present at the OSDC for document submission and processing.

In addition, the tanker berthing application process is now digitised on Marinet. Besides improving workflow efficiency, the e-application allows for the convenient tracking of tankers berthing at conventional wharves. Likewise, enhancements to the Pilotage Exemption Online Application automated the previously manual process of certificate verification across MPA departments.

Marinet has made it convenient for customers to complete forms online. With the backend integration of MyInfo, certain personal information is automatically reflected in the input fields. Customers can now follow up with their applications on Marinet using uniquely generated reference IDs.

With the maritime community well served by Marinet, counter services at the OSDC will be gradually phased out.



Marinet

CARING FOR SEAFARERS FROM AROUND THE WORLD

To mark the Day of the Seafarer, MPA and The Mission to Seafarers Singapore jointly opened an international drop-in centre for seafarers at Pasir Panjang Terminal Building 5. This centre is the latest addition to the three drop-in centres at Jurong Port, Keppel Terminal and Pasir Panjang Terminal Building 1.



Opening of the international drop-in centre for seafarers at Pasir Panjang Terminal Building 5: Mr S C Lim (left), Management Committee Member of The Mission to Seafarers Singapore; and Capt M Segar (right), Assistant Chief Executive (Operations) of MPA

The new drop-in centre provides facilities and services that benefit about 20,000 visiting seafarers who call at the Pasir Panjang Terminal each month. These facilities and services include free Wi-Fi, computers with internet access, telephone service, light refreshments, television, reading materials, foosball table and dart boards. On top of scheduled bus services, seafarers can now reserve bus seats through an on-demand shuttle service.

MPA also contributes an annual sum of S\$150,000 to support the work of various seafarers' missions in promoting the welfare of seafarers when they call at Singapore. The grant supports a wide range of welfare services for seafarers, ranging from ship visitations to counselling services and pastoral care at mission centres. In 2019, MPA distributed the grant to the Apostleship of the Sea, the Danish Seamen's Church, the International Lutheran Seafarers' Mission, The Mission to Seafarers Singapore and the Norwegian Seamen's Church.

In addition, MPA joined hands with Jurong Port Pte Ltd, PSA Singapore, the Singapore Maritime Officers' Union and the Singapore Organisation of Seamen (SOS) to present 600 gift hampers to ships calling at Singapore during the Day of the Seafarer. Containing food and gift items for about 9,000 seafarers, the hampers expressed Maritime Singapore's appreciation of seafarers and their contributions to the maritime industry.



Presentation of gift hampers to express appreciation to seafarers: Capt Lim Swee Aun (left), Chairman of Singapore Maritime Employers Federation; and Capt M Segar (right), Assistant Chief Executive (Operations) of MPA

In 2019, MPA organised an array of recreational activities that enhanced the well-being of seafarers. These activities included the MPA Learning Journeys and the Seafarers Sports Carnivals. Additionally, MPA hosted an Appreciation Dinner for its partners to thank them for their contribution in promoting the welfare of seafarers. It also collaborated with SOS to offer free Wi-Fi and on-demand transport service at the Pasir Panjang Terminal seafarers' centre.



Seafarers Sports Carnival



STRATEGIC PARTNERSHIPS WITH MARITIME INSTITUTES AND CENTRES OF EXCELLENCE

WORLD MARITIME UNIVERSITY (WMU)

Singapore is committed to strengthening global maritime governance. MPA was pleased to support the WMU-Koji Sekimizu PhD Fellowship on Maritime Governance. The support was rendered as part of Singapore's enhanced technical cooperation and training package for the International Maritime Organization and its Member States. In addition, MPA signed an enhanced Memorandum of Understanding (MOU) with WMU to cooperate on leadership training and capacity building for the international maritime community.



Her Excellency Foo Chi Hsia, Singapore High Commissioner to the United Kingdom, delivering her remarks at the launch of the World Maritime University-Koji Sekimizu PhD Fellowship on Maritime Governance

MPA Academy also hosts WMU students regularly. In 2019, it hosted a total of 44 students enrolled in the WMU's Masters of Science in Maritime Affairs programme on two separate occasions. These field study visits promote international exchange and the sharing of maritime knowledge and ideas. MPA's partnership with WMU has strengthened the work of both institutions in global maritime leadership development, training and capacity building.



MPA Academy hosting students of World Maritime University

RESEARCH COUNCIL OF NORWAY (RCN)

Under the MPA-RCN MOU on Maritime R&D, Education and Training, MPA and RCN cooperate on R&D in areas such as maritime environment, sustainable energy technology, offshore and marine engineering, maritime operations, and info-communications technology. Following the second Joint Call for Proposals in Maritime Research between Norway and Singapore, a proposal on "Ultra-High-Power Density Wireless Charging for Maritime Applications" was selected in 2019 for funding support by both countries.

In addition, as part of the MPA-RCN MOU, MPA co-organised the 2019 International Maritime and Port Technology and Development Conference (MTEC), which focused on maritime digitalisation, green shipping and autonomous systems and vessels. MPA led the Singapore delegation, comprising representatives from Keppel Offshore & Marine, the National University of Singapore, Sembcorp Marine and the Singapore Maritime Institute, to MTEC 2019 in Trondheim, Norway.



The Singapore delegation to the 2019 International Maritime and Port Technology and Development Conference led by MPA

SINGAPORE MARITIME ACADEMY

MPA renewed the MOU with Singapore Polytechnic that was first signed in 2013. The polytechnic will continue to provide Vessel Traffic Service training to MPA officers at the Singapore Maritime Academy over the next three years.

INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY (IMAREST)



Memorandum of Understanding between MPA and the Institute of Marine Engineering, Science and Technology: Ms Quah Ley Hoon (left), Chief Executive of MPA; and Mr David Loosley (right), Chief Executive of the Institute of Marine Engineering, Science and Technology

In 2019, MPA inked an MOU with IMarEST to support continuing education and training for maritime professionals in Singapore. Under this agreement, MPA and IMarEST aim to develop and retain maritime talents in Singapore by creating additional pathways for professional development and recognition. This partnership will benefit marine surveyors and marine hydrographers in MPA as well as other offshore and shore-based maritime professionals.

CHOICE EMPLOYER



MPA's key assets are its people.

Employing over 700 officers, MPA is committed to providing an inclusive work environment where officers can develop professionally and grow their careers in MPA and the public service. It does so by working closely with its union, the Amalgamated Union of Statutory Board Employees (AUSBE).

Three key pillars guide MPA's Human Resource strategies and practices to support MPA's mission in developing Singapore into a global hub port and an international maritime centre. The three pillars are "Right Organisation", "Right People" and "Engaged People".

- **Right Organisation:** Possessing the organisational capabilities, structures and resources to develop and implement business strategies
- **Right People:** Attracting and developing the competencies of MPA officers
- **Engaged People:** Motivating and retaining officers with rewarding careers

In addition, MPA places a high premium on the safety and well-being of its employees. It also champions staff volunteerism and care for the community through involving employees in its charity outreach efforts.



RIGHT ORGANISATION

LEADERSHIP DEVELOPMENT



Build Relationships



Develop People



Invest in Self



Shape the Future



Achieve Results

MPA LEADERSHIP COMPETENCY MODEL

MPA recognises that its leaders are key drivers of the organisation. As such, it focuses on leadership development to equip present and future leaders with the confidence to lead their teams forward. To this end, MPA designs management programmes for officers at various levels of leadership based on the MPA Leadership Competency Model. The model outlines the proficiencies that MPA leaders require to perform their roles effectively.

These leadership programmes, together with regular coaching sessions, help officers develop personal awareness, understand team dynamics and explore ways to engage a millennial workforce.

- The Supervisors Programme targets first-time supervisors. It focuses on developing skills in two-way feedback, active listening and conflict management.
- The Managers Programme caters to middle managers. It hones their management skills in areas such as developmental coaching and leading change.

BUILDING A CULTURE OF INNOVATION

Beyond championing a culture of innovation in the maritime industry, MPA also strives to develop an organisational culture of innovation within the agency. In 2019, MPA ran staff events such as InnovFest and the Innovation Challenge to encourage its officers to brainstorm challenge statements

and develop solutions to issues such as the Future of Work. During these sessions, MPA officers also learnt about design thinking and lean methodologies for collaborative innovation.



Ms Quah Ley Hoon, Chief Executive of MPA, delivering her opening remarks at InnovFest 2019



Innovation Challenge 2019

RIGHT PEOPLE

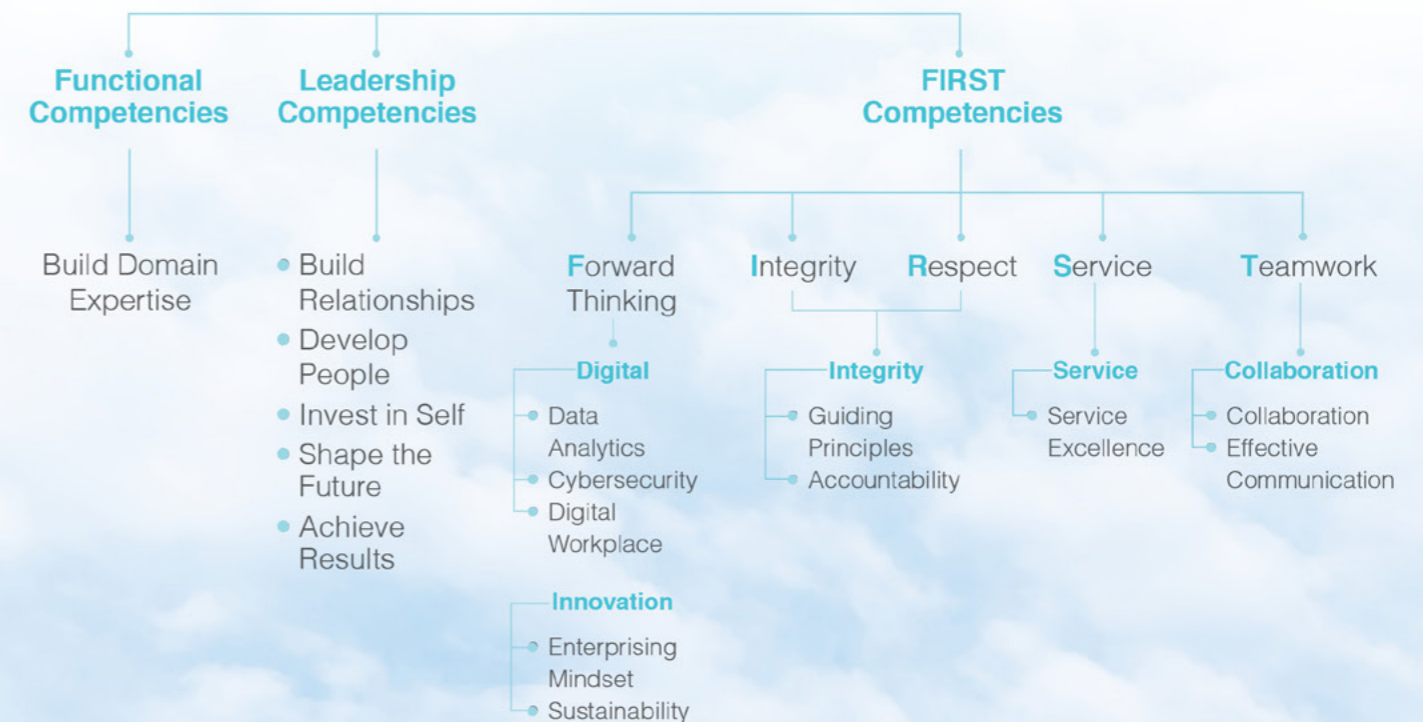
Besides conducting recruitment on a fair, merit-based and non-discriminatory basis, MPA places a strong emphasis on the professional development and personal growth of its officers.

MPA LEARNING FRAMEWORK

MPA adopts a competency-driven approach to nurturing human capital and building a highly competent workforce. The MPA Learning Framework defines the functional, leadership and FIRST (Forward Thinking, Integrity, Respect, Service Excellence and Teamwork) competencies required

of MPA officers, and helps employees identify and develop crosscutting proficiencies to meet present and future organisational needs. By creating a learning roadmap for the competencies, MPA has developed a programme guide for its officers at various milestones in their careers.

MPA LEARNING FRAMEWORK



CHOICE EMPLOYER



DATA ANALYTICS AND TECHNOLOGY ROADMAP

As Singapore's maritime industry undergoes digital transformation, MPA has developed a Data Analytics and Technology Roadmap for employees to acquire digital literacy skills. The Roadmap details the incremental levels of digital competencies that officers can aspire to build – from developing general awareness of digital functions to mastering data analytics and digital programmes. MPA officers undergo digital trainings courses to acquire the competencies that meet the needs of the organisation and the maritime industry.



MPA officers attending a data analytics course

SPONSORSHIPS AND DEVELOPMENTAL OPPORTUNITIES

MPA offers a variety of sponsorships and developmental opportunities to grow talents for the organisation and the maritime industry.

- It offers scholarships to support outstanding individuals in their undergraduate studies at prestigious universities locally and overseas. The scholarship programme also supports recipients on their exchange programmes and provides internships for scholarship holders to gain valuable experience in the maritime industry.



MPA Undergraduate and Post-graduate Scholarship recipients in 2019: Mr Jeremy Nicholas Teo (second from left); Mr Putra Mohammad Danish Bin Mohd Rafee (third from left); Ms Loh Sin Yee (centre); and Mr Koh Giap Shin (second from right) with Ms Quah Ley Hoon (far left), Chief Executive of MPA; Mr Khaw Boon Wan (third from right), Coordinating Minister for Infrastructure and Minister for Transport; and Mr Niam Chiang Meng (far right), Chairman of MPA

- MPA also sponsors the post-graduate studies of selected in-service officers as part of professional training to prepare them for leadership roles in MPA.
- The MPA In-Service Sponsorship Programme for Part-Time Studies helps officers to attain higher professional or educational qualifications. This sponsorship not only promotes continuous and lifelong learning, but also fosters the personal and professional development of officers beyond their areas of work.
- To help officers stay competitive and meet the demands of a dynamic industry, MPA introduces Training Awards to encourage its officers to develop specialised competencies in areas such as data analytics. The Awards enable employees to upgrade themselves by acquiring new skills and domain knowledge beyond their qualifications and expertise.
- In addition, MPA provides its officers with an UPGRADE account. This personal learning fund empowers employees to take charge of their own development. It enhances the long-life employability of MPA officers by giving them opportunities to undergo training in domains not directly related to their work.
- With the launch of the LEARN.gov.sg digital application, MPA officers can access online classrooms for convenient and rapid upskilling. While inculcating a digital learning mindset among MPA officers, the LEARN.gov.sg digital platform complements MPA's suite of training programmes and enables MPA officers to acquire knowledge on the go.
- Other developmental opportunities available to MPA officers include working in cross-functional project teams, job rotations, attachments and secondments to other government agencies.

MPA-Issued Scholarships/Sponsorships in 2019

2 Undergraduate/
Post-graduate
Scholarship



8 In-Service
Sponsorship for
Part-Time Studies



1 In-Service
Post-graduate
Sponsorship



2 Training Award





ENGAGED PEOPLE

MPA EMPLOYEE ENGAGEMENT FRAMEWORK

Guided by the framework of “WeShare”, “WeChat”, “WeCelebrate” and “WeAppreciate”, MPA actively engages its officers through various channels to foster open communication and show appreciation to employees for their hard work. Doing so promotes staff retention, which is critical for organisational development and succession.

MPA Employee Engagement Framework



WeShare



WeChat



WeCelebrate



WeAppreciate

WeShare

MPA encourages regular communication between its employees and Senior Management. As such, staff engagement is instituted as a regular exercise in MPA. To build a strong work culture, MPA introduced several rounds of ‘Conversation with CE’ in 2019 to foster two-way communication and candid discussion between Senior Management and MPA officers. MPA also rolled out the Employee Engagement Survey in December 2019 to understand how its officers feel about various organisational and HR issues. The survey responses will inform internal policies to build OneMPA.



‘Conversation with CE’

During MPA Work Plan Seminar 2019, MPA Senior Management updated its officers on developments in MPA and the maritime industry. In addition to preparing employees for upcoming changes, Senior Management also received feedback on achievements and improvements in MPA.



MPA Work Plan Seminar 2019

To empower its officers to contribute ideas on issues that matter to them, MPA formed four ground-up work streams on job redesign, career progression, internal communications and information sharing. These work streams were tasked with reviewing the four issues identified as important to MPA employees based on the Employee Engagement Survey conducted in 2018. The work streams, which encouraged MPA officers to develop cross-divisional partnerships, offered insights and recommendations on areas such as telecommuting policy, career rotation and talent management, overseas travel arrangements, self-directed learning and the mastery of digital competencies. A design-thinking approach was adopted in these work streams to push the boundaries for solutions.



Members of the work stream on career progression

WeChat

MPA also conducts informal dialogue sessions regularly to engage its officers and to reinforce a culture of feedback in MPA. Informal platforms including CE’s luncheons with officers and breakfast with Senior Management during the

WeCelebrate

In 2019, MPA organised festive events for its employees to celebrate Lunar New Year, Hari Raya Puasa, Deepavali and the year-end festive season with one another. These

MPA Foundation Programme promote staff engagement with Senior Management on issues such as professional development, industry transformation and staff well-being.

celebrations, alongside other events such as MPA Family Day and Dinner and Dance, promote bonding and interaction among MPA officers across divisions.



MPA Lunar New Year celebrations 2019



MPA officers performing ‘We Are One’ at the year-end festive celebration



MPA officers playing a traditional game of ‘goli’ during Hari Raya Puasa celebrations



MPA Family Day 2019



MPA officers engaging in craft work during Deepavali celebrations



MPA Dinner and Dance 2019





WeAppreciate

At Appreciation Hour, MPA recognises and rewards its officers for exemplifying MPA FIRST Values and for their contributions to various MPA projects.

In 2019, MPA also organised an appreciation lunch for Merdeka Generation employees to honour their achievements and contributions, as well as to acknowledge

their sacrifices for the nation. As they visited food stations that evoke memories of early Singapore, MPA's Merdeka Generation officers reminisced and shared about their past.

In addition, MPA's Senior Management team also visited frontline officers during the public holidays to show its appreciation for employees working shifts.



MPA Appreciation Hour



Merdeka Appreciation Lunch



Dr Lam Pin Min, Senior Minister of State, Ministry of Transport and Ministry of Health, celebrating Lunar New Year with MPA's frontline officers



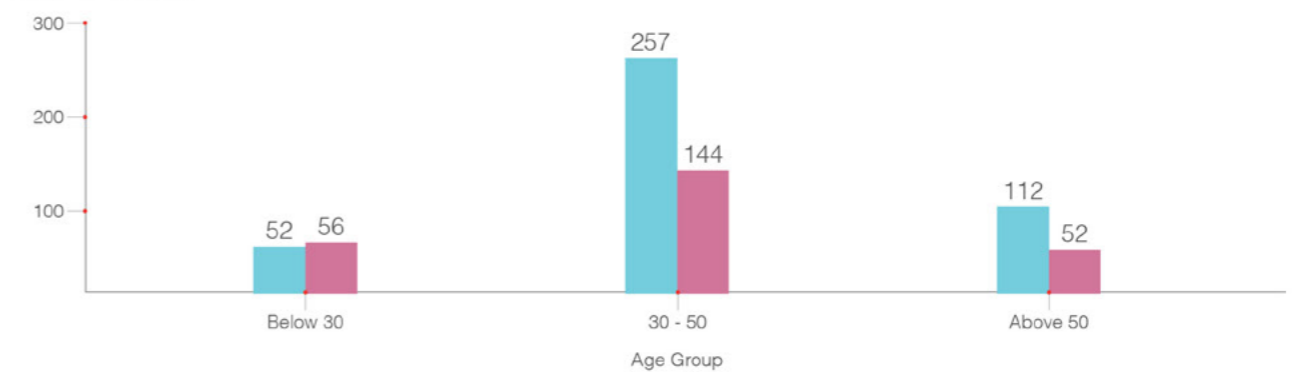
MPA's Senior Management visiting frontline officers during Deepavali

2019 EMPLOYEE DEMOGRAPHICS

EMPLOYEES' AGE PROFILE BY GENDER

Male Female

Number of Employees



CATEGORIES OF EMPLOYEES BY GENDER

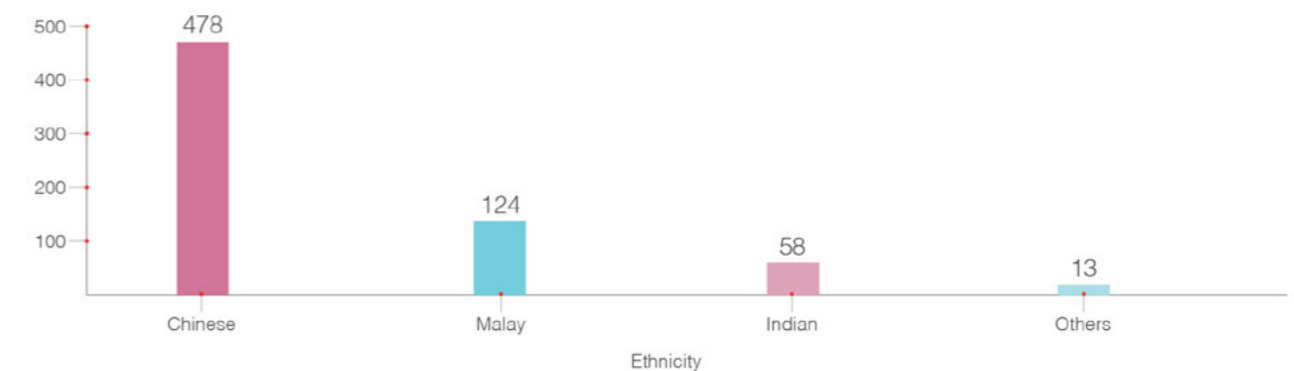
Male Female

Number of Employees



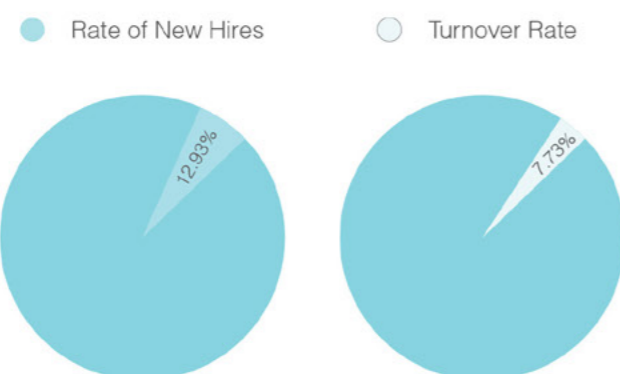
WORKFORCE BY ETHNICITY

Number of Employees

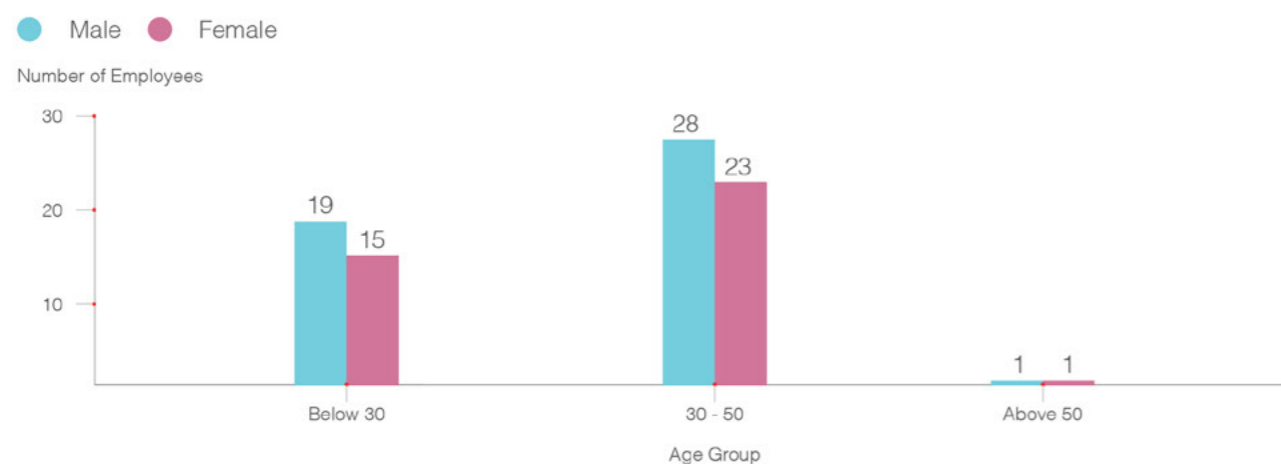




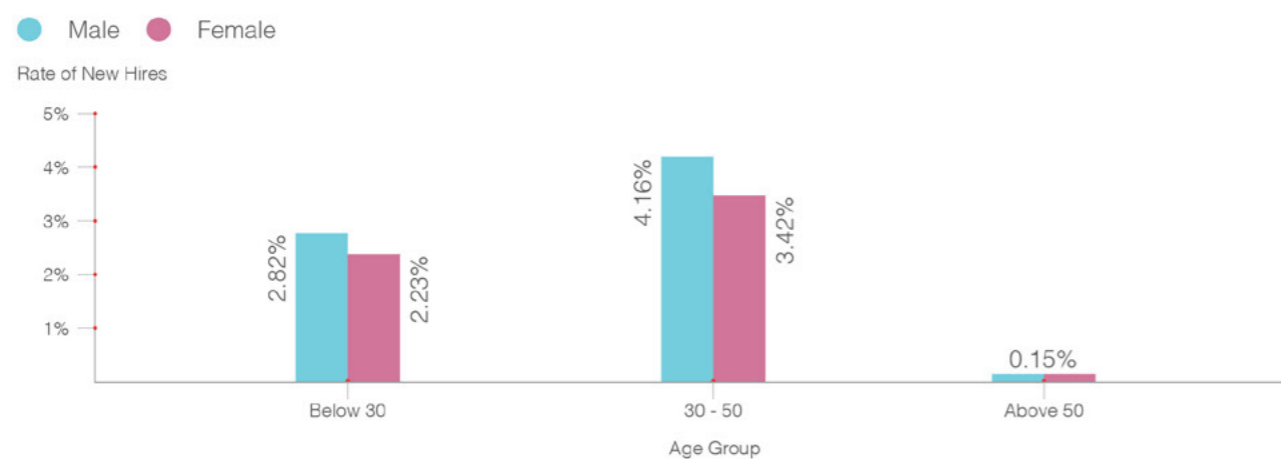
NEW HIRES AND TURNOVER RATE



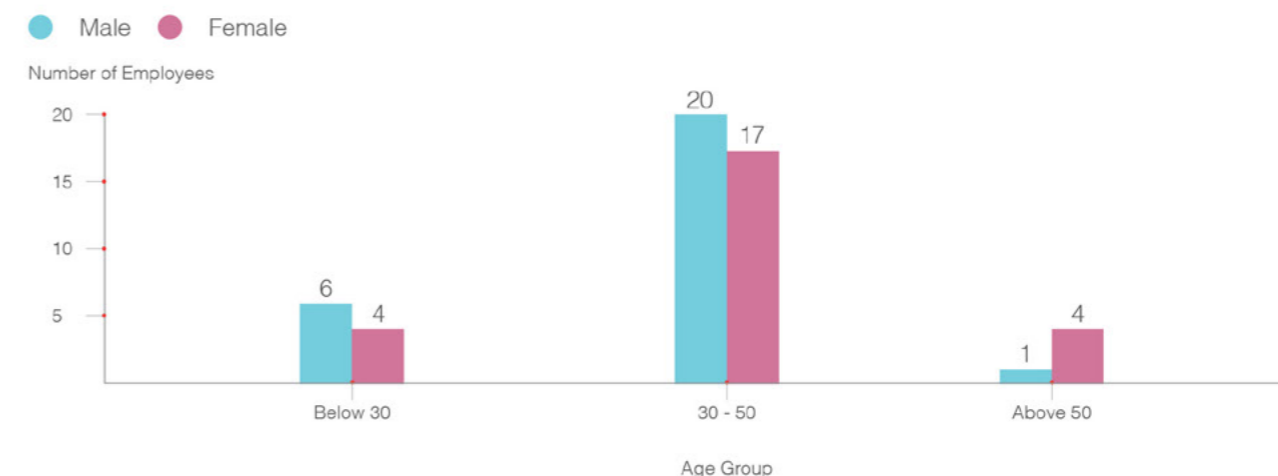
NEW HIRES BY GENDER AND AGE GROUP



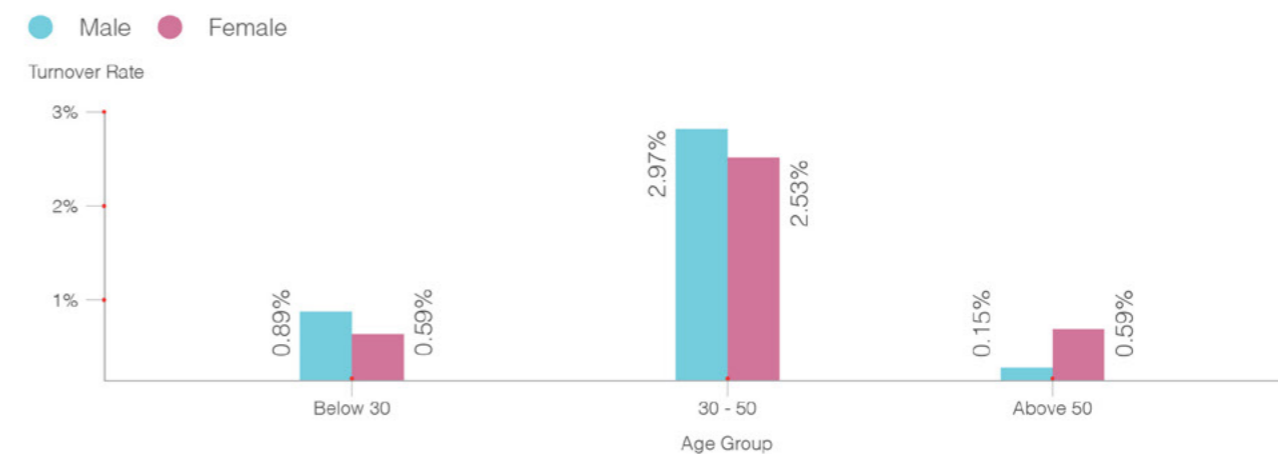
RATE OF NEW HIRES BY GENDER AND AGE GROUP



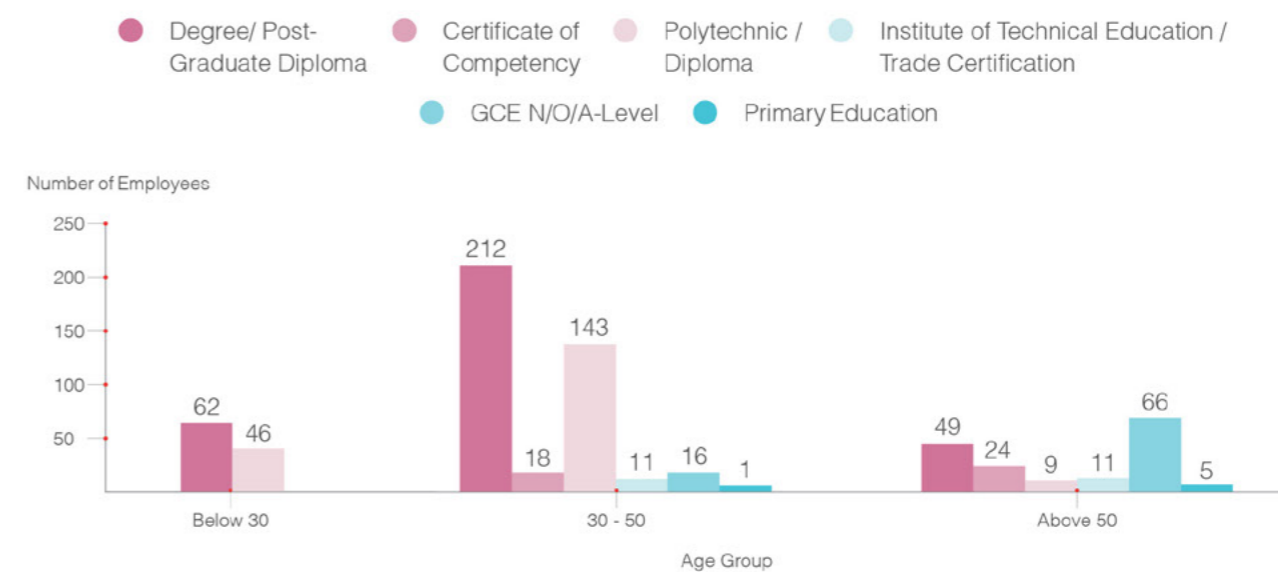
TURNOVER BY GENDER AND AGE GROUP



TURNOVER RATE BY GENDER AND AGE GROUP



EMPLOYEES' EDUCATION LEVELS BY AGE GROUP





COMMITMENT TO CHARITY EFFORTS

ADOPTION OF TWO CHARITIES

MPA has adopted The Salvation Army Prison Support Services – Kids in Play, and REACH Community Services as part of its commitment to Corporate Social Responsibility.

MPA's CARE Team champions initiatives to promote staff volunteerism and carries out fundraising to support MPA's adopted charities.

CHARITY FLEA MARKET AND E-BIDDING



MPA officers running food stalls to raise funds for charity

During Values Week 2019, MPA volunteers organised a charity sale by setting up stalls that sell second-hand goods, food and handicraft. In addition, MPA officers also bid for donated items including books and stamp collections to raise funds for MPA's adopted charities

PURCHASE OF WISH LIST ITEMS FOR BENEFICIARIES



Items purchased and donated to beneficiaries of MPA's adopted charity

The CARE Team worked with REACH Community Services to put together a wish list of electrical household items for its beneficiaries in June 2019. Through a charity drive, the team raised enough funds to purchase all the items on

the list that were then delivered to REACH Family Service Centre for coordinated distribution.

Similarly, to spread joy and love to MPA's adopted charity during the festive season, MPA held its Year-End Charity Drive to raise funds for the purchase of wish list items to help beneficiaries of REACH Family Service Centre and REACH Counselling Centre. A total of 46 items were purchased and donated to needy families.

MPA FAMILY DAY



Presentation of donation cheque to Community Chest (from left to right): Ms Quah Ley Hoon, Chief Executive of MPA; Ms Priscilla Gan, Director (Relations & Engagement) of Community Chest; Ms Grace Lee, Head of REACH Family Service; and Mr Cedric Chew, Head (Sojourn Programme) of The Salvation Army

In November 2019, MPA invited families from REACH Community Services to celebrate MPA Family Day with its employees. The families had a fun-filled morning alongside MPA officers and their families. They also visited SuperPark Singapore – a purpose-built indoor activity park for people of all ages.

At MPA Family Day 2019, Ms Quah Ley Hoon, Chief Executive of MPA, presented a donation cheque of \$224,382 to Community Chest.

MINISTRY OF TRANSPORT (MOT) FAMILY CHARITY OUTREACH



Mr Khaw Boon Wan, Coordinating Minister for Infrastructure and Minister for Transport, accompanying 60 children from Hougang Sheng Hong Student Care Centre on The Bicentennial Experience tour

MPA organised the MOT Family Charity Outreach in September 2019. Held annually since 2010, the charity event galvanises the collective efforts of MOT agencies, including MPA, towards a charitable cause. Volunteers accompanied 60 participants from Hougang Sheng Hong Student Care Centre on The Bicentennial Experience tour, which tells the story of Singapore's momentous evolution since 1299.

During the MOT Family Charity Outreach event, Mr Khaw Boon Wan, Coordinating Minister for Infrastructure and Minister for Transport, presented a \$1.2 million cheque to the Community Chest on behalf of MOT agencies.

RECOGNITION



Er Tham Wai Wah (left), Chief Engineer/Senior Director (Engineering & Project Management) of MPA, receiving a token of appreciation from President Mdm Halimah Yacob (right) for MPA's donation to President's Challenge 2019

At President's Challenge Appreciation Night 2019, MPA received a token of appreciation from President Mdm Halimah Yacob for its donation to President's Challenge 2019. President's Challenge is an annual nationwide outreach and fund-raising campaign to help the less fortunate.



Er Tham Wai Wah (left), Chief Engineer/Senior Director (Engineering & Project Management) of MPA, receiving the Charity Gold Award on behalf of MPA from Assoc Prof Muhammad Faishal Ibrahim (right), Senior Parliamentary Secretary, Ministry of Social and Family Development

In October 2019, MPA also received the Charity Gold Award for its donations to Community Chest.



LABOUR RELATIONS



Members of the Amalgamated Union of Statutory Board Employees and MPA Senior Management team

MPA continues to build a cohesive and collaborative relationship with AUSBE. Both MPA and AUSBE share a common objective of developing a motivated and engaged workforce while helping employees to stay competitive.

MPA values feedback from AUSBE and its branch committee. In 2019, MPA regularly convened union-management meetings to address issues such as the professional development of MPA employees the well-being of MPA officers. MPA Senior Management and AUSBE representatives also participated in various informal activities to foster a harmonious working relationship between MPA and the union.

As a testimony of MPA's commitment to promoting strong labour-management relations, MPA was conferred with the Plaque of Commendation (Gold) at the National Trade Union Congress (NTUC) May Day Awards 2019. The award recognised MPA's consistent support of and outstanding contributions to labour movement initiatives.

In 2019, about 58% of MPA officers were unionised under AUSBE.



Ms Quah Ley Hoon (left), Chief Executive of MPA, receiving the Plaque of Commendation (Gold) from Mr Ng Chee Meng (right), Minister in the Prime Minister's Office and Secretary-General of the National Trade Union Congress (NTUC), at NTUC May Day Awards 2019

WORKPLACE SAFETY AND HEALTH (WSH)

WSH STRATEGY

A key aspect of staff welfare is to ensure that MPA officers are safe and healthy at work. In MPA, workplace safety and health is deeply entrenched in its organisational culture. All MPA officers play their part in following standard operating procedures where applicable, while ensuring that their workspaces are free from safety hazards.

MPA's WSH strategy and its key outcomes are outlined as follows:

WSH Strategy

- Promote the benefits of WSH and good practices
- Develop and implement safe work procedures
- Build WSH capabilities to effectively manage WSH programmes and initiatives
- Create and build partnerships

Key Outcomes

- MPA is an agency of excellence in WSH
- Reduce WSH incident/accident rates
- Create a progressive and pervasive WSH culture

MPA's WSH Committee drives the overall WSH Strategy. Chaired by Senior Director (Operations Technology), the Committee was re-organised in 2019. It comprises representatives from the Operations cluster, the Human Resource division and the union.

WSH PERFORMANCE FOR 2019

The WSH committee monitors and tracks workplace incidents. In 2019, there was no work-related fatality but three workplace incidents occurred. For each incident, MPA conducted a thorough review and updated its risk control measures. Case studies were also developed and the lessons learnt were disseminated to MPA officers.



Number of fatalities: 0



Number of work-related or workplace incidents: 3

WSH INITIATIVES

MPA carried out a holistic and systematic risk management review in 2019 to evaluate and address the risks associated with identified hazards. Based on findings from the review, MPA developed and implemented effective control measures. It also instituted best practices to limit the exposure time to the assessed risks and ensure that such risks were reduced to as low as reasonably practicable.

The WSH Committee also promoted a safety-first culture and a high level of safety consciousness among MPA officers. Safety posters were regularly updated and placed in prominent locations around the workplace. The Committee also sent regular Electronic Direct Mails to disseminate best practices, case studies and safety reminders.



GLOSSARY

Term & Abbreviation	Definition	Page(s)
Amalgamated Union of Statutory Board Employees (AUSBE)	AUSBE looks after the interest of employees across 12 statutory boards, including MPA	111, 124
Classification Society	A classification society carries out statutory surveys and issues certificates to Singapore-registered ships on behalf of MPA	61
digitalPORT@SG™	digitalPORT@SG™ is a maritime single window that serves as a one-stop portal for maritime regulatory and port services transactions	4, 27, 86
Global Compact Network Singapore (GCNS)	GCNS is the local chapter of the United Nations Global Compact promoting the Corporate Social Responsibility movement	32
Global Internship Award (GIA)	The MPA GIA is a fully sponsored internship programme that gives students an opportunity to intern with international maritime companies in Singapore and around the world	3, 68, 105
GRI Sustainability Reporting Standards (GRI Standards)	The GRI Standards are a set of interrelated standards developed by the Global Reporting Initiative – a non-profit organisation that promotes sustainable development and operations – to guide the preparation of sustainability reports in a clear and comparable manner	0 (About This Report)
Greenhouse Gas (GHG)	GHGs are natural and anthropogenic gaseous constituents of the atmosphere that absorb and re-emit infrared radiation	94
Gross Tonnage (GT)	GT is a non-linear measure of a ship's overall internal volume	2, 14, 38
Information Sharing Centre (ISC)	Based in Singapore, the ISC is the executive unit of ReCAAP that conducts timely and accurate information sharing on incidents of piracy and sea robbery	51
Integrated Reporting <IR>	<IR> holistically outlines how an organisation's strategy, governance, performance and prospects lead to value creation over time.	0 (About This Report)
International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA)	IALA is a non-profit international organisation established in 1957 to encourage its members to harmonise navigational aids worldwide and to ensure that the movements of vessels are safe, expeditious and cost effective	49
International Integrated Reporting Council (IIRC)	The IIRC is a coalition of government, business and accounting professionals that aims to develop a globally accepted <IR> framework	0 (About This Report)
International Maritime Centre (IMC)	An IMC provides a comprehensive range of high quality maritime services	0 (About This Report), 2, 8, 11, 12, 18, 19, 36, 38, 54, 65, 74, 82, 111
International Maritime Organization (IMO)	The IMO is a specialised United Nations agency that sets global regulatory standards for the safety, security and environmental performance of international shipping	3, 4, 18, 28, 30, 47, 48, 54, 63, 82, 108
Jurong Port Pte Ltd	Jurong Port Pte Ltd operates the only multi-purpose port in Singapore that handles bulk, break-bulk and containerised cargo	7, 53, 107
Liquefied Natural Gas (LNG)	LNG is a natural gas that has been converted to liquid form for ease of storage or transport	2, 5, 30, 101, 106
Marinet	Marinet is an online e-commerce system that MPA has developed for the maritime community	4, 86, 106
Maritime Cluster Fund (MCF)	The MCF facilitates the growth of Singapore's maritime industry in the key areas of business development, manpower development and productivity improvement	3, 44, 66, 98

Term & Abbreviation	Definition	Page(s)
Maritime Outreach Network (MaritimeONE)	MaritimeONE is a manpower initiative by maritime stakeholders to raise awareness of the industry as well as to profile education and career opportunities for students	75
Maritime Singapore Green Initiative (MSGI)	The MSGI is a voluntary initiative started by MPA in 2011 to promote clean and sustainable shipping in Singapore	5, 30
MARPOL Convention	The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main IMO legal instrument aimed at preventing the pollution of the marine environment from ships that arises from accidents or operational incidents	63
Mass Flow Metering	A mass flow meter is a device that measures the flow rate through a tube by mass per unit time	30
Next-Generation Port	The next-generation port at Tuas is a sustainable and highly efficient port that will be completed by the 2030s	10, 27, 33, 56
Port of Singapore	The Port of Singapore refers to the collective facilities and terminals that conduct maritime trade and handle shipping in Singapore	4, 12, 13, 21, 27, 28, 30, 33, 74, 83, 95, 96
Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP)	ReCAAP is a regional government-to-government agreement that came into effect in 2006 with the purpose of promoting and enhancing cooperation against piracy and armed robbery of ships in Asia	51
Safety@Sea	Safety@Sea is an industry-wide effort to raise safety awareness and inculcate a safety-first culture at sea	24
Shipbroking	Shipbroking is a financial service integral to the global shipping industry	2, 39
Singapore Maritime Institute	The Singapore Maritime Institute charts the maritime research strategy and promotes industry-academia R&D collaborations in Singapore	5, 56, 57, 67, 109
Singapore Registry of Ships (SRS)	The SRS is ranked among the top five largest registries in the world	2, 13, 14, 25, 29, 38
Singapore Maritime Data Hub (SG-MDH)	Launched in 2019, the SG-MDH is a one-stop data repository that encourages the development and test-bedding of novel digital applications and services for the maritime industry	5, 60, 97, 98
Singapore Maritime Foundation (SMF)	SMF is a private sector-led organisation established in 2004 to develop and promote Singapore as an IMC through forging strong partnerships between the public and private sectors of the maritime industry	3, 39, 45, 74, 75
Singapore Shipping Association (SSA)	SSA is a national trade association formed in 1985 that not only represents shipping companies and businesses allied to the shipping industry, but also enhances the competitiveness of Singapore as an IMC	6, 7, 28, 39, 41, 44, 45, 61, 78
Throughput	The amount of material or items passing through a system or process	4, 15
Twenty-foot Equivalent Unit (TEU)	A standard unit for describing a ship's cargo carrying capacity or a shipping terminal's cargo handling capacity	4, 15, 33, 34
United Nations Sustainable Development Goals (UN SDGs)	The UN SDGs are a set of 17 interconnected goals adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030	0 (About This Report), 16



MPA'S APPROACH TO INTEGRATED REPORTING

The sixth edition of MPA's Integrated Report reflects the organisation's progress in its <IR> journey. MPA has developed a growing understanding of its value creation process and has continued to refine it to bring tangible benefits to its stakeholders. Over the years, MPA's initiatives have fostered the growth of Maritime Singapore and boosted the competitiveness of the local maritime industry. In the spirit of sustainability, MPA continues to develop new programmes and review existing initiatives to drive industry transformation and prepare the maritime sector for challenges of the future.

The report has successfully completed the Materiality Disclosures Service, which has been performed by the GRI Services team. The content elements of the <IR> framework are reflected in the table as follows:

Content Elements	Section	Page(s)
A. Organisational Overview and External Environment	Chairman's Message	2-3
	Chief Executive's Message	4-5
	About MPA/ About Maritime Singapore	12-13
	2019 Performance Summary	14-15
B. Business Model	Key Material Issues	16-17
	MPA's Business Model	18-19
C. Risks and Opportunities	Key Material Issues	16-17
	Corporate Governance	89-90
D. Strategy and Resource Allocation	Chairman's Message	2-3
	Chief Executive's Message	4-5
	Key Material Issues	16-17
	MPA's Business Model	18-19
E. Performance	2019 Performance Summary	14-15
	Commitment to Environmental Sustainability	92-94
	Awards Received in 2019	95-98
	MPA's Awards Milestone	99-101
	2019 Employee Demographics	119-121
	Workplace Safety and Health	125
	FY2019 Financial Statements – published separately	-
F. Outlook	Chairman's Message	2-3
	Chief Executive's Message	4-5
G. Basis of Preparation and Presentation	About This Report	0
	Key Material Issues	16-17
	Statutory Board Financial Reporting Standards (FY2019 Financial Statements) – published separately	-

Thank you for your support on MPA's <IR> journey. We look forward to receiving your feedback so that we can continue to serve your needs.



GRI CONTENT INDEX

For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report.

Foundation

GRI 101: Foundation 2016

In preparing its sustainability report based on the GRI Standards: Comprehensive option, MPA has applied the GRI's Reporting Principles for defining report content and quality.

General Disclosures

Disclosure		Reference(s) or Reasons for Omission
GRI 102: General Disclosures 2016		
Organisational Profile		
102-1	Name of the organization	About MPA (Pg 12)
102-2	Activities, brands, products, and services	About MPA/ About Maritime Singapore (Pg 12-13)
102-3	Location of headquarters	About MPA/ About Maritime Singapore (Pg 12-13)
102-4	Location of operations	About MPA/ About Maritime Singapore (Pg 12-13)
102-5	Ownership and legal form	About MPA (Pg 12)
102-6	Markets served	About MPA/ About Maritime Singapore (Pg 12-13)
102-7	Scale of the organization	Organisation Structure (Pg 10-11) About MPA (Pg 12) Choice Employer > 2019 Employee Demographics (Pg 119-121) FY2019 Financial Statements – published separately
102-8	Information on employees and other workers	Choice Employer > 2019 Employee Demographics (Pg 119-121)
102-9	Supply chain	Culture of Excellence > Supplier Management (Pg 91)
102-10	Significant changes to the organization and its supply chain	There were no significant organisational changes during the reporting period
102-11	Precautionary Principle or approach	Key Material Issues (Pg 16-17) MPA's Business Model (Pg 18-19)
102-12	External initiatives	Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Safeguard Strategic Maritime Interests and an Influential Voice (Pg 46-53)
102-13	Membership of associations	Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Safeguard Strategic Maritime Interests and an Influential Voice (Pg 46-53)



General Disclosures

Disclosure		Reference(s) or Reasons for Omission
Strategy		
102-14	Statement from senior decision-maker	Chairman's Message (Pg 2-3) Chief Executive's Message (Pg 4-5)
102-15	Key impacts, risks, and opportunities	Chairman's Message (Pg 2-3) Chief Executive's Message (Pg 4-5) Key Material Issues (Pg 16-17) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Vibrant International Maritime Centre Ecosystem (Pg 36-45) Maritime Knowledge and Innovation Hub (Pg 54-63) Culture of Excellence > Corporate Governance (Pg 89-90)
Ethics and Integrity		
102-16	Values, principles, standards, and norms of behavior	Culture of Excellence > MPA's Values (Pg 87) Choice Employer (Pg 110-125)
102-17	Mechanisms for advice and concerns about ethics	Choice Employer > Engaged People (Pg 116-118)
Governance		
102-18	Governance structure	Board of Directors (Pg 6-7) Senior Management (Pg 8-9) Organisation Structure (Pg 10-11) Culture of Excellence > Corporate Governance (Pg 89-90)
102-19	Delegating authority	Board of Directors (Pg 6-7) Culture of Excellence > Corporate Governance (Pg 89-90)
102-20	Executive-level responsibility for economic, environmental, and social topics	Senior Management (Pg 8-9) Organisation Structure (Pg 10-11)
102-21	Consulting stakeholders on economic, environmental, and social topics	Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Vibrant International Maritime Centre Ecosystem > Driving the Next Phase of Industry Transformation (Pg 41-45) Safeguard Strategic Maritime Interests and an Influential Voice (Pg 46-53) Maritime Knowledge and Innovation Hub > Building Maritime Technology Ecosystems and Capabilities (Pg 54-63) Strong Maritime Singapore Identity (Pg 70-83) Strong Partnerships (Pg 102-109)

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
102-22	Composition of the highest governance body and its committees	Board of Directors (Pg 6-7)
102-23	Chair of the highest governance body	Board of Directors (Pg 6-7) The Chairman of the MPA Board, the highest governance body, is a non-executive officer of MPA
102-24	Nominating and selecting the highest governance body	Culture of Excellence > Corporate Governance (Pg 89-90)
102-25	Conflicts of interest	Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115)
102-26	Role of highest governance body in setting purpose, values, and strategy	Culture of Excellence > Corporate Governance (Pg 89-90)
102-27	Collective knowledge of highest governance body	Sustainability issues have been discussed at the Board level during the reporting period, raising the awareness of economic, environmental and social issues Culture of Excellence > Corporate Governance (Pg 89-90)
102-28	Evaluating the highest governance body's performance	Information unavailable – MPA does not currently measure this indicator
102-29	Identifying and managing economic, environmental, and social impacts	Key Material Issues (Pg 16-17) Culture of Excellence > Corporate Governance (Pg 89-90)
102-30	Effectiveness of risk management processes	Culture of Excellence > Corporate Governance (Pg 89-90)
102-31	Review of economic, environmental, and social topics	Key Material Issues (Pg 16-17)
102-32	Highest governance body's role in sustainability reporting	Culture of Excellence > Corporate Governance (Pg 89-90)
102-33	Communicating critical concerns	Culture of Excellence > Pursuing Service Excellence (Pg 86-87)
102-34	Nature and total number of critical concerns	Culture of Excellence > Pursuing Service Excellence (Pg 86-87)
102-35	Remuneration Policies	Culture of Excellence > Corporate Governance (Pg 89-90)
102-36	Process for determining remuneration	Culture of Excellence > Corporate Governance (Pg 89-90)
102-37	Stakeholders' involvement in remuneration	Culture of Excellence > Corporate Governance (Pg 89-90)
102-38	Annual total compensation ratio	Culture of Excellence > Corporate Governance (Pg 89-90)
102-39	Percentage increase in annual total compensation ratio	Culture of Excellence > Corporate Governance (Pg 89-90)



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
Stakeholder Engagement		
102-40	List of stakeholder groups	Please refer to Page 88 of MPA Sustainability/Integrated Report 2018
102-41	Collective bargaining agreements	Choice Employer > Labour Relations (Pg 124)
102-42	Identifying and selecting stakeholders	Stakeholders are entities or individuals that can reasonably expect to be significantly affected by MPA's activities, or whose actions can reasonably expect to affect the ability of MPA to successfully implement its strategies and achieve its objectives. In determining key stakeholders, MPA considers their interest in sustainability, potential influence, as well as the extent to which MPA's activities can impact them
102-43	Approach to stakeholder engagement	Key Material Issues (Pg 16-17) Please refer to Page 88 of MPA Sustainability/Integrated Report 2018
102-44	Key topics and concerns raised	Key Material Issues (Pg 16-17)
Reporting Practice		
102-45	Entities included in the consolidated financial statements	All entities included in MPA's consolidated financial statements are covered by this report. FY2019 Financial Statements > Notes to the Financial Statements (Investments in subsidiary and associated companies) – published separately
102-46	Defining report content and topic Boundaries	About This Report (Pg 0) Key Material Issues (Pg 16-17) MPA's Business Model (Pg 18-19)
102-47	List of material topics	Key Material Issues (Pg 16-17)
102-48	Restatements of information	There are no restatements from MPA's previous report
102-49	Changes in reporting	There are no changes to the material issues and topic boundaries from MPA's previous report
102-50	Reporting period	About This Report (Pg 0)
102-51	Date of most recent report	About This Report (Pg 0)
102-52	Reporting cycle	About This Report (Pg 0)
102-53	Contact point for questions regarding the report	About This Report (Pg 0)
102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Comprehensive option.
102-55	GRI content index	GRI Standards Content Index (Pg 129-149)
102-56	External assurance	This report is not externally assured

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
Economic Performance		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) FY2019 Financial Statements – published separately
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) FY2019 Financial Statements – published separately
GRI 201: Economic Performance 2016		
201-1	Direct economic value generated and distributed	FY2019 Financial Statements – published separately
201-2	Financial implications and other risks and opportunities due to climate change	Information unavailable – MPA has not formally assessed the financial implications of climate change on the organisation
201-3	Defined benefit plan obligations and other retirement plans	Not applicable – benefit plan financial obligations are not relevant in the local context
201-4	Financial assistance received from government	Not applicable
Market Presence		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19)
GRI 202: Market Presence 2016		
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	Not applicable – the Ministry of Manpower does not prescribe minimum wages for all workers in Singapore, whether local or foreign
202-2	Proportion of senior management hired from the local community	All members of MPA's Senior Management team are hired locally from Singapore Senior Management (Pg 8-9)
Indirect Economic Impacts		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) 2019 Performance Summary (Pg 14-15) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Vibrant International Maritime Centre Ecosystem (Pg 36-45) Maritime Knowledge and Innovation Hub (Pg 54-63) Quality Maritime Workforce (Pg 64-69) Strong Partnerships (Pg 102-109)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) 2019 Performance Summary (Pg 14-15) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Vibrant International Maritime Centre Ecosystem (Pg 36-45) Maritime Knowledge and Innovation Hub (Pg 54-63) Quality Maritime Workforce (Pg 64-69) Strong Partnerships (Pg 102-109)
GRI 203: Indirect Economic Impacts 2016		
203-1	Infrastructure investments and services supported	2019 Performance Summary (Pg 14-15) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Vibrant International Maritime Centre Ecosystem (Pg 36-45) Safeguard Strategic Maritime Interests and an Influential Voice > Maintaining Our Influence on the Global Stage (Pg 48-51) Maritime Knowledge and Innovation Hub (Pg 54-63) Quality Maritime Workforce (Pg 64-69) Strong Maritime Singapore Identity (Pg 70-83) Culture of Excellence > Pursuing Service Excellence (Pg 86) Strong Partnerships (Pg 102-109)
203-2	Significant indirect economic impacts	2019 Performance Summary (Pg 14-15) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Vibrant International Maritime Centre Ecosystem (Pg 36-45) Safeguard Strategic Maritime Interests and an Influential Voice > Maintaining Our Influence on the Global Stage (Pg 48-51) Maritime Knowledge and Innovation Hub (Pg 54-63) Quality Maritime Workforce (Pg 64-69) Strong Maritime Singapore Identity (Pg 70-83) Culture of Excellence > Pursuing Service Excellence (Pg 86) Strong Partnerships (Pg 102-109)

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
Procurement Practices		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17) Culture of Excellence > Supplier Management (Pg 91)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Culture of Excellence > Supplier Management (Pg 91)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Culture of Excellence > Supplier Management (Pg 91)
GRI 204: Procurement Practices 2016		
204-1	Proportion of spending on local suppliers	Information unavailable – MPA does not currently measure this indicator
Anti-corruption		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115)
GRI 205: Anti-corruption 2016		
205-1	Operations assessed for risks related to corruption	Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115)
205-2	Communication and training about anti-corruption policies and procedures	Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115)
205-3	Confirmed incidents of corruption and actions taken	Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115)
Anti-competitive Behavior		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19)
GRI 206: Anti-competitive Behavior 2016		
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	Not applicable – MPA is a statutory board



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
Materials		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
GRI 301: Materials 2016		
301-1	Materials used by weight or volume	The key materials used in MPA are office supplies such as copier paper, toners and other stationery Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
301-2	Recycled input materials used	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
301-3	Reclaimed products and their packaging materials	Not applicable – MPA does not sell products
Energy		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
GRI 302: Energy 2016		
302-1	Energy consumption within the organization	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
302-2	Energy consumption outside of the organization	Information unavailable – MPA does not currently measure energy consumption outside of the organisation Nonetheless, MPA has reported its responsibilities and initiatives in managing the industry's energy consumption Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32)

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
302-3	Energy intensity	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
302-4	Reduction of energy consumption	Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
302-5	Reductions in energy requirements of products and services	Not applicable – MPA does not sell products
Water		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
GRI 303: Water 2016		
303-1	Water withdrawal by source	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
303-2	Water sources significantly affected by withdrawal of water	Not applicable – MPA's water use, mainly for its office premises, comes from PUB, Singapore's National Water Agency
303-3	Water recycled and reused	Not applicable
Biodiversity		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Strong Maritime Singapore Identity > Community Engagement (Pg 76-83)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Strong Maritime Singapore Identity > Community Engagement (Pg 76-83)



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
GRI 304: Biodiversity 2016		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Safe, Efficient and Sustainable Global Hub Port > Next-Generation Port at Tuas (Pg 33-35)
304-2	Significant impacts of activities, products, and services on biodiversity	For the reclamation of Tuas Port, MPA conducted environmental impact assessments and adhered to strict environmental quality objectives to protect marine biodiversity MPA has reported its responsibilities and initiatives in managing the impact on biodiversity brought about by the activities of Singapore's maritime industry Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32)
304-3	Habitats protected or restored	Cooperating with volunteers and non-governmental organisations, MPA implemented a S\$6 million programme in 2013 to relocate corals affected by the development of Tuas Port Strong Maritime Singapore Identity > Community Engagement (Pg 76-83)
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	Not applicable – MPA's operations do not affect IUCN Red List species and national conservation list species
Emissions		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
GRI 305: Emissions 2016		
305-1	Direct (Scope 1) GHG emissions	Not applicable – MPA's GHG emissions are derived from electricity consumption in MPA's office premises Nonetheless, MPA has reported its responsibilities and initiatives in managing the impact of the industry's GHG emissions Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32)
305-2	Energy indirect (Scope 2) GHG emissions	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
305-3	Other indirect (Scope 3) GHG emissions	Information unavailable – MPA is unable to measure Scope 3 emissions accurately

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
305-4	GHG emissions intensity	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
305-5	Reduction of GHG emissions	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
305-6	Emissions of ozone-depleting substances (ODS)	Not applicable – MPA is not a heavy emitter of ODS, NOX, SOX and other significant air emissions MPA has reported its responsibilities and initiatives in managing the industry's air emissions Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32)
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	
Effluents and Waste		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
GRI 306: Effluents and Waste 2016		
306-1	Water discharge by quality and destination	Not applicable – MPA does not discharge water (excluding office sewage)
306-2	Waste by type and disposal method	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94) Not applicable – MPA does not generate hazardous waste
306-3	Significant spills	Not applicable – MPA's operations do not cause spills Nonetheless, MPA has reported its responsibilities and initiatives in managing oil pollution in Singapore's waters Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32)
306-4	Transport of hazardous waste	Not applicable – MPA does not generate hazardous waste
306-5	Water bodies affected by water discharges and/or runoff	Not applicable – MPA does not discharge water (excluding office sewage)
Environmental Compliance		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
GRI 307: Environmental Compliance 2016		
307-1	Non-compliance with environmental laws and regulations	MPA did not incur any significant fines or face non-monetary sanctions for non-compliance during the reporting period
Supplier Environmental Assessment		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Supplier Management (Pg 91)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Supplier Management (Pg 91)
GRI 308: Supplier Environmental Assessment 2016		
308-1	New suppliers that were screened using environmental criteria	Information unavailable – MPA does not currently measure the percentage of new suppliers that are screened using environmental criteria Nonetheless, MPA has laid down its principles, including environmental considerations, in its selection of suppliers Culture of Excellence > Supplier Management (Pg 91)
308-2	Negative environmental impacts in the supply chain and actions taken	Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
Employment		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Choice Employer > Right Organisation (Pg 112) Choice Employer > Right People (Pg 113-115) Choice Employer > Engaged People (Pg 116-118) Choice Employer > 2019 Employee Demographics (Pg 119-121) Choice Employer > Labour Relations (Pg 124)

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Choice Employer > Right Organisation (Pg 112) Choice Employer > Right People (Pg 113-115) Choice Employer > Engaged People (Pg 116-118) Choice Employer > 2019 Employee Demographics (Pg 119-121) Choice Employer > Labour Relations (Pg 124)
GRI 401: Employment 2016		
401-1	New employee hires and employee turnover	Choice Employer > 2019 Employee Demographics (Pg 119-121)
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Not applicable – MPA provides the same benefits to its full-time and part-time workers employees
401-3	Parental leave	Information unavailable – MPA does not currently measure this indicator
Labor/Management Relations		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Choice Employer > Labour Relations (Pg 124)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Choice Employer > Labour Relations (Pg 124)
GRI 402: Labor/Management Relations 2016		
402-1	Minimum notice periods regarding operational changes	When operational changes occur, MPA gives its employees as much advance notice as possible Choice Employer > Engaged People (Pg 116-118)
Occupational Health and Safety		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Choice Employer > Workplace Safety and Health (Pg 125)
103-2	The management approach and its components	Choice Employer > Workplace Safety and Health (Pg 125)
103-3	Evaluation of the management approach	Choice Employer > Workplace Safety and Health (Pg 125)
GRI 403: Occupational Health and Safety 2016		
403-1	Workers representation in formal joint management-worker health and safety committees	Choice Employer > Workplace Safety and Health (Pg 125)
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Choice Employer > Workplace Safety and Health (Pg 125)



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
403-3	Workers with high incidence or high risk of diseases related to their occupation	Safe, Efficient and Sustainable Global Hub Port > Safety (Pg 22-26) Choice Employer > Workplace Safety and Health (Pg 125)
403-4	Health and safety topics covered in formal agreements with trade unions	Details can be found in MPA's Employees' Agreement (2018) with the Amalgamated Union of Statutory Board Employees
Training and Education		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Maritime Knowledge and Innovation Hub > Global Leadership Training (Pg 62-63) Quality Maritime Workforce (Pg 64-69) Culture of Excellence > MPA's Values (Pg 87) Culture of Excellence > Corporate Governance Values (Pg 89-90) Strong Partnerships (Pg 104-109) Choice Employer > Right Organisation (Pg 112) Choice Employer > Right People (Pg 113-115)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Maritime Knowledge and Innovation Hub > Global Leadership Training (Pg 62-63) Quality Maritime Workforce (Pg 64-69) Culture of Excellence > MPA's Values (Pg 87) Culture of Excellence > Corporate Governance (Pg 89-90) Strong Partnerships (Pg 104-109) Choice Employer > Right Organisation (Pg 112) Choice Employer > Right People (Pg 113-115)
GRI 404: Training and Education 2016		
404-1	Average hours of training per year per employee	Information unavailable
404-2	Programmes for upgrading employee skills and transition assistance programmes	In addition to noting the professional development programmes MPA's employees undergo, MPA has reported its responsibilities and initiatives on the training and development of the maritime workforce Maritime Knowledge and Innovation Hub > Global Leadership Training (Pg 62-63) Quality Maritime Workforce (Pg 64-69) Culture of Excellence > MPA's Values (Pg 87) Culture of Excellence > Corporate Governance (Pg 89-90) Strong Partnerships (Pg 104-109) Choice Employer > Right Organisation (Pg 112) Choice Employer > Right People (Pg 113-115)
404-3	Percentage of employees receiving regular performance and career development reviews	All MPA employees undergo performance and career development reviews twice a year

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
Diversity and Equal Opportunity		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	Board of Directors (Pg 6-7) Senior Management (Pg 8-9) MPA's Business Model (Pg 18-19) Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115) Choice Employer > Engaged People (Pg 116-118) Choice Employer > 2019 Employee Demographics (Pg 119-121)
103-3	Evaluation of the management approach	Board of Directors (Pg 6-7) Senior Management (Pg 8-9) MPA's Business Model (Pg 18-19) Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115) Choice Employer > Engaged People (Pg 116-118) Choice Employer > 2019 Employee Demographics (Pg 119-121)
GRI 405: Diversity and Equal Opportunity 2016		
405-1	Diversity of governance bodies and employees	Board of Directors (Pg 6-7) Senior Management (Pg 8-9) Choice Employer > 2019 Employee Demographics (Pg 119-121)
405-2	Ratio of basic salary and remuneration of women to men	Information unavailable – MPA's remuneration policy is fair and does not discriminate by gender
Non-discrimination		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115)
GRI 406: Non-discrimination 2016		
406-1	Incidents of discrimination and corrective actions taken	MPA did not identify any substantiated incidents of discrimination during the reporting period
Freedom of Association and Collective Bargaining		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Choice Employer > Labour Relations (Pg 124)



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Choice Employer > Labour Relations (Pg 124)
GRI 407: Freedom of Association and Collective Bargaining 2016		
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Not applicable – MPA encourages its employees with incentives to be unionised under the Amalgamated Union of Statutory Board Employees
Child Labor		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Not applicable – MPA does not employ young persons and children
103-2	The management approach and its components	
103-3	Evaluation of the management approach	
GRI 408: Child Labor 2016		
408-1	Operations and suppliers at significant risk for incidents of child labor	Not applicable – MPA did not find any of its operations or suppliers at significant risk for incidents of child labour or young workers exposed to hazardous work
Forced or Compulsory Labor		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Not applicable – MPA does not engage in forced or compulsory labour
103-2	The management approach and its components	
103-3	Evaluation of the management approach	
GRI 409: Forced or Compulsory Labor 2016		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Not applicable – MPA did not find any of its operations or suppliers at significant risk for incidents of forced or compulsory labour
Security Practices		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Safety (Pg 22-26) Culture of Excellence > Corporate Governance (Pg 89-90)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Safety (Pg 22-26) Culture of Excellence > Corporate Governance (Pg 89-90)

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
GRI 410: Security Practices 2016		
410-1	Security personnel trained in human rights policies or procedures	Not applicable – MPA's employees are not deployed as security personnel
Rights of Indigenous Peoples		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115) Choice Employer > 2019 Employee Demographics (Pg 119-121)
103-3	Evaluation of the management approach	Culture of Excellence > MPA's Values (Pg 87) Choice Employer > Right People (Pg 113-115) Choice Employer > 2019 Employee Demographics (Pg 119-121)
GRI 411: Rights of Indigenous Peoples 2016		
411-1	Incidents of violations involving rights of indigenous peoples	Not applicable – there were no incidents of violations involving the rights of indigenous peoples during the reporting period
Human Rights Assessment		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Not applicable
103-2	The management approach and its components	
103-3	Evaluation of the management approach	
GRI 412: Human Rights Assessment 2016		
412-1	Operations that have been subject to human rights reviews or impact assessments	Not applicable
412-2	Employee training on human rights policies or procedures	
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	
Local Communities		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Safety (Pg 22-26) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Vibrant International Maritime Centre Ecosystem > Driving the Next Phase of Industry Transformation (Pg 41-45) Quality Maritime Workforce (Pg 64-69) Strong Maritime Singapore Identity (Pg 70-83) Choice Employer > Commitment to Charity Efforts (Pg 122-123)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Safety (Pg 22-26) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Vibrant International Maritime Centre Ecosystem > Driving the Next Phase of Industry Transformation (Pg 41-45) Quality Maritime Workforce (Pg 64-69) Strong Maritime Singapore Identity (Pg 70-83) Choice Employer > Commitment to Charity Efforts (Pg 122-123)
GRI 413: Local Communities 2016		
413-1	Operations with local community engagement, impact assessments, and development programmes	Safe, Efficient and Sustainable Global Hub Port > Safety (Pg 22-26) Safe, Efficient and Sustainable Global Hub Port > Sustainability (Pg 28-32) Vibrant International Maritime Centre Ecosystem > Driving the Next Phase of Industry Transformation (Pg 41-45) Quality Maritime Workforce (Pg 66-69) Strong Maritime Singapore Identity > Community Engagement (Pg 76-83) Choice Employer > Commitment to Charity Efforts (Pg 122-123)
413-2	Operations with significant actual and potential negative impacts on local communities	Not applicable – MPA did not observe significant actual/potential negative impact on local communities that arose from its operations during the reporting period
Supplier Social Assessment		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Culture of Excellence > Supplier Management (Pg 91)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Culture of Excellence > Supplier Management (Pg 91)

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
GRI 414: Supplier Social Assessment 2016		
414-1	New suppliers that were screened using social criteria	Information unavailable – MPA does not currently measure the percentage of new suppliers that are screened using social criteria Nonetheless, MPA has laid down its principles, including social considerations, in its selection of suppliers Culture of Excellence > Supplier Management (Pg 91)
414-2	Negative social impacts in the supply chain and actions taken	Culture of Excellence > Commitment to Environmental Sustainability (Pg 92-94)
Public Policy		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	About MPA (Pg 12) Key Material Issues (Pg 16-17)
103-2	The management approach and its components	About MPA (Pg 12) MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Vibrant International Maritime Centre Ecosystem (Pg 36-45) Safeguard Strategic Maritime Interests and an Influential Voice (Pg 46-53) Maritime Knowledge and Innovation Hub (Pg 54-63) Quality Maritime Workforce (Pg 64-69) Strong Maritime Singapore Identity (Pg 70-83) Culture of Excellence > Pursuing Service Excellence (Pg 86) Culture of Excellence > MPA's Values (Pg 87) Culture of Excellence > Our Innovation Excellence Award Journey (Pg 88) Strong Partnerships (Pg 102-109)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Vibrant International Maritime Centre Ecosystem (Pg 36-45) Safeguard Strategic Maritime Interests and an Influential Voice (Pg 46-53) Maritime Knowledge and Innovation Hub (Pg 54-63) Quality Maritime Workforce (Pg 64-69) Strong Maritime Singapore Identity (Pg 70-83) Culture of Excellence > Pursuing Service Excellence (Pg 86) Culture of Excellence > MPA's Values (Pg 87) Culture of Excellence > Our Innovation Excellence Award Journey (Pg 88) Strong Partnerships (Pg 102-109)



Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
GRI 415: Public Policy 2016		
415-1	Political contributions	Not applicable – MPA does not make any financial or in-kind political contributions
Customer Health and Safety		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Safeguard Strategic Maritime Interests and an Influential Voice > Maintaining Our Influence on the Global Stage (Pg 48-51) Strong Partnerships > Strong Business Support (Pg 104-107)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port (Pg 20-35) Safeguard Strategic Maritime Interests and an Influential Voice > Maintaining Our Influence on the Global Stage (Pg 48-51) Strong Partnerships > Strong Business Support (Pg 104-107)
GRI 416: Customer Health and Safety 2016		
416-1	Assessment of the health and safety impacts of product and service categories	Information unavailable – MPA does not currently measure the percentage of product and service categories for which health and safety impacts are assessed for improvement
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	MPA did not observe any incidents of non-compliance during the reporting period
Marketing and Labeling		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Strong Maritime Singapore Identity (Pg 70-83)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Strong Maritime Singapore Identity (Pg 70-83)
GRI 417: Marketing and Labeling 2016		
417-1	Requirements for product and service information and labelling	Not applicable – MPA does not sell products
417-2	Incidents of non-compliance concerning product and service information and labelling	
417-3	Incidents of non-compliance concerning marketing communications	MPA did not observe any incidents of non-compliance during the reporting period

Topic-Specific Disclosures

Disclosure		Reference(s) or Reasons for Omission
Customer Privacy		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Safety (Pg 22-26) Safeguard Strategic Maritime Interests and an Influential Voice > Maintaining Our Influence on the Global Stage (Pg 48-51) Culture of Excellence > MPA's Values (Pg 87) Culture of Excellence > Corporate Governance (Pg 89-90)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Safe, Efficient and Sustainable Global Hub Port > Safety (Pg 22-26) Safeguard Strategic Maritime Interests and an Influential Voice > Maintaining Our Influence on the Global Stage (Pg 48-51) Culture of Excellence > MPA's Values (Pg 87) Culture of Excellence > Corporate Governance (Pg 89-90)
GRI 418: Customer Privacy 2016		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	MPA has not received any substantiated complaints concerning breaches of customer privacy and losses of customer data during the reporting period
Socioeconomic Compliance		
GRI 103: Management Approach 2016		
103-1	Explanation of the material topic and its boundary	Key Material Issues (Pg 16-17)
103-2	The management approach and its components	MPA's Business Model (Pg 18-19) Culture of Excellence > Corporate Governance (Pg 89-90) Choice Employer > Workplace Safety and Health (Pg 125)
103-3	Evaluation of the management approach	MPA's Business Model (Pg 18-19) Culture of Excellence > Corporate Governance (Pg 89-90) Choice Employer > Workplace Safety and Health (Pg 125)
GRI 419: Socioeconomic Compliance 2016		
419-1	Non-compliance with laws and regulations in the social and economic area	MPA did not incur any significant fines or face non-monetary sanctions for non-compliance during the reporting period




UN SDGS INDEX


General Disclosures

Goal	Target and Indicator	Future-Ready Strategic Thrust	Pages
	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
		Quality Maritime Workforce	64-69
		Strong Maritime Singapore Identity	70-83
		4.7	By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
		Quality Maritime Workforce	64-69
		Choice Employer	110-125
	Ensure access to affordable, reliable, sustainable and modern energy for all	7.3	By 2030, double the global rate of improvement in energy efficiency
		Safe, Efficient and Sustainable Global Hub Port	20-35
		Culture of Excellence	84-101



Goal	Target and Indicator	Future-Ready Strategic Thrust	Pages
	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.3	Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including through access to financial services
		Vibrant International Maritime Centre Ecosystem	36-45
		Maritime Knowledge and Innovation Hub	54-63
		Quality Maritime Workforce	64-69
		8.5	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
		Quality Maritime Workforce	64-69
		Choice Employer	110-125
		8.6	By 2020, substantially reduce the proportion of youth not in employment, education or training
		Quality Maritime Workforce	64-69
		8.8	Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
		Choice Employer	110-125



Goal		Target and Indicator		Future-Ready Strategic Thrust	Pages
	Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation	9.1	Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	Safe, Efficient and Sustainable Global Hub Port	20-35
				Vibrant International Maritime Centre Ecosystem	36-45
				Maritime Knowledge and Innovation Hub	54-63
				Culture of Excellence	84-101
				Strong Partnerships	102-109
		9.4	By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	Safe, Efficient and Sustainable Global Hub Port	20-35
				Vibrant International Maritime Centre Ecosystem	36-45
				Maritime Knowledge and Innovation Hub	54-63
				Culture of Excellence	84-101
		9.5	Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	Safe, Efficient and Sustainable Global Hub Port	20-35
	Vibrant International Maritime Centre Ecosystem			36-45	
	Maritime Knowledge and Innovation Hub			54-63	
	Quality Maritime Workforce			64-69	

Goal	Target and Indicator		Future-Ready Strategic Thrust	Pages	
	Make cities and human settlements inclusive, safe, resilient and sustainable	11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	Safe, Efficient and Sustainable Global Hub Port	20-35
		11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage	Safe, Efficient and Sustainable Global Hub Port	20-35
				Strong Maritime Singapore Identity	70-83
		11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	Safe, Efficient and Sustainable Global Hub Port	20-35
	Safeguard Strategic Maritime Interests and an Influential Voice			46-53	
	Ensure sustainable consumption and production patterns	12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	Safe, Efficient and Sustainable Global Hub Port	20-35
				Culture of Excellence	84-101
		12.6	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	Safe, Efficient and Sustainable Global Hub Port	20-35
		12.7	Promote public procurement practices that are sustainable, in accordance with national policies and priorities	Strong Partnerships	102-109
		12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	Strong Maritime Singapore Identity	70-83



Goal	Target and Indicator	Future-Ready Strategic Thrust	Pages
	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	Safe, Efficient and Sustainable Global Hub Port 20-35
			Strong Maritime Singapore Identity 70-83
		14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	Safe, Efficient and Sustainable Global Hub Port 20-35
			Strong Maritime Singapore Identity 70-83
		14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information	Safe, Efficient and Sustainable Global Hub Port 20-35
			Strong Maritime Singapore Identity 70-83
	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	16.5 Substantially reduce corruption and bribery in all their forms	Culture of Excellence 84-101
		16.A Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime	Safe, Efficient and Sustainable Global Hub Port 20-35
			Safeguard Strategic Maritime Interests and an Influential Voice 46-53

Goal	Target and Indicator	Future-Ready Strategic Thrust	Pages
	Strengthen the means of implementation and revitalise the global partnership for sustainable development	17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries	Safeguard Strategic Maritime Interests and an Influential Voice 46-53
			Maritime Knowledge and Innovation Hub 54-63
			Strong Partnerships 102-109
		17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	Safe, Efficient and Sustainable Global Hub Port 20-35
			Vibrant International Maritime Centre Ecosystem 36-45
			Safeguard Strategic Maritime Interests and an Influential Voice 46-53
			Maritime knowledge and Innovation Hub 54-63
			Quality Maritime Workforce 64-69
			Strong Maritime Singapore Identity 70-83
			Strong Partnerships 102-109



OUR CONTRIBUTORS



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**THE MARITIME AND PORT AUTHORITY OF SINGAPORE
AND ITS SUBSIDIARY**

ANNUAL REPORT

For the financial year ended 31 December 2019

**THE MARITIME AND PORT AUTHORITY
OF SINGAPORE AND ITS SUBSIDIARY**

ANNUAL FINANCIAL STATEMENTS

**FOR THE FINANCIAL YEAR ENDED
31 DECEMBER 2019**

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**THE MARITIME AND PORT AUTHORITY OF SINGAPORE
AND ITS SUBSIDIARY**

STATEMENT BY BOARD OF MEMBERS

For the financial year ended 31 December 2019

In the opinion of the Board of Members,

- (a) the consolidated financial statements of the Maritime and Port Authority of Singapore and its subsidiary (the "Authority") as set out on pages 7 to 60 are properly drawn up so as to present fairly, in all material respects, the state of affairs of the Authority as at 31 December 2019 and of the results of the business, changes in reserves and cash flows of the Authority for the financial year then ended in accordance with the provisions of the Public Sector (Governance) Act 2018 and the Maritime and Port Authority of Singapore Act (Cap. 170A) and Statutory Board Financial Reporting Standards; and
- (b) at the date of this statement, there are reasonable grounds to believe that the Authority will be able to pay its debts as and when they fall due.

On behalf of the Board of Members,



Niam Chiang Meng
Chairman



Quan Ley Hoon
Chief Executive and Board Member

29 March 2020

**INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE BOARD
OF THE MARITIME AND PORT AUTHORITY OF SINGAPORE**

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying consolidated financial statements of the Maritime and Port Authority of Singapore and its subsidiary (the "Authority") set out on pages 7 to 60, which comprise the consolidated balance sheet as at 31 December 2019, the consolidated statement of comprehensive income, consolidated statement of changes in reserves and consolidated statement of cash flows of the Authority for the year then ended, and notes to the financial statements including a summary of significant accounting policies.

In our opinion, the consolidated financial statements of the Authority are properly drawn up in accordance with the provisions of the Public Sector (Governance) Act 2018 and the Maritime and Port Authority of Singapore Act (Cap. 170A) (the "Acts") and Statutory Board Financial Reporting Standards so as to present fairly, in all material respects, the state of affairs of the Authority as at 31 December 2019 and the results, changes in reserves and cash flows of the Authority for the year ended on that date.

Basis for Opinion

We conducted our audit in accordance with Singapore Standards on Auditing ("SSAs"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Authority in accordance with the Accounting and Corporate Regulatory Authority Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities ("ACRA Code") together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Information Other than the Financial Statements and Auditor's Report Thereon

Management is responsible for the other information. The other information obtained at the date of this auditor's report is the Statement by Board of Members, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon.

**INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE BOARD
OF THE MARITIME AND PORT AUTHORITY OF SINGAPORE (continued)**

In connection with our audit of the financial statements, our responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the provisions of the Acts and Statutory Board Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

A statutory board is constituted based on its Acts and its dissolution requires Parliament's approval. In preparing the financial statements, management is responsible for assessing the Authority's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless there is intention to wind up the Authority or for the Authority to cease operations.

Those charged with governance are responsible for overseeing the Authority's financial reporting process.

**INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE BOARD
OF THE MARITIME AND PORT AUTHORITY OF SINGAPORE (continued)**

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SSAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Authority's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Authority to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Authority to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

**INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE BOARD
OF THE MARITIME AND PORT AUTHORITY OF SINGAPORE (continued)**

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on Other Legal and Regulatory Requirements

Opinion

In our opinion:

- (a) the receipts, expenditure, investment of moneys and the acquisition and disposal of assets by the Authority during the year are, in all material respects, in accordance with the provisions of the Acts and the requirements of any other written law applicable to moneys of or managed by the Authority; and
- (b) proper accounting and other records have been kept, including records of all assets of the Authority whether purchased, donated or otherwise.

Basis for Opinion

We conducted our audit in accordance with SSAs. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Compliance Audit* section of our report. We are independent of the Authority in accordance with the ACRA Code together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on management's compliance.

Responsibilities of Management for Compliance with Legal and Regulatory Requirements

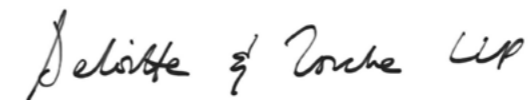
Management is responsible for ensuring that the receipts, expenditure, investment of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the Acts. This responsibility includes implementing accounting and internal controls as management determines are necessary to enable compliance with the provisions of the Acts.

**INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE BOARD
OF THE MARITIME AND PORT AUTHORITY OF SINGAPORE (continued)**

Auditor's Responsibilities for the Compliance Audit

Our responsibility is to express an opinion on management's compliance based on our audit of the financial statements. We planned and performed the compliance audit to obtain reasonable assurance about whether the receipts, expenditure, investment of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the Acts.

Our compliance audit includes obtaining an understanding of the internal control relevant to the receipts, expenditure, investment of moneys and the acquisition and disposal of assets; and assessing the risks of material misstatement of the financial statements from non-compliance, if any, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Because of the inherent limitations in any accounting and internal control system, non-compliances may nevertheless occur and not be detected.



Public Accountants and
Chartered Accountants
Singapore

29 March 2020

**THE MARITIME AND PORT AUTHORITY OF SINGAPORE
AND ITS SUBSIDIARY**

CONSOLIDATED BALANCE SHEET

As at 31 December 2019

	Note	2019 \$	2018 \$
ASSETS			
Non-current assets			
Property, plant and equipment	4	99,272,779	92,341,275
Right-of-use assets	5	4,312,712	-
Capital work-in-progress	4,6	9,481,644	10,743,480
Financial assets	8	614,867,828	539,188,943
		<u>727,934,963</u>	<u>642,273,698</u>
Current assets			
Trade receivables	9	50,215,521	45,337,017
Deposits, prepayments and other receivables	10	16,367,361	15,740,866
Cash and cash equivalents	11	866,021,715	787,779,005
		<u>932,604,597</u>	<u>848,856,888</u>
Total assets		<u>1,660,539,560</u>	<u>1,491,130,586</u>
EQUITY			
Capital and reserves			
Establishment account	12	147,375,155	147,375,155
Equity financing account	13	3,978,616	3,978,616
Accumulated surplus		1,388,790,452	1,258,838,465
Total capital and reserves		<u>1,540,144,223</u>	<u>1,410,192,236</u>
LIABILITIES			
Non-current liabilities			
Employment benefits	14	422,377	422,377
Deferred capital grant	15	16,403,403	17,665,353
Lease liabilities	16	2,115,496	-
		<u>18,941,276</u>	<u>18,087,730</u>
Current liabilities			
Trade and other payables	17	47,573,426	40,932,479
Advances, deposits and unearned income	18	13,238,104	11,234,867
Lease liabilities	16	2,282,953	-
Provision for contribution to Consolidated Fund	23	38,359,578	10,683,274
		<u>101,454,061</u>	<u>62,850,620</u>
Total liabilities		<u>120,395,337</u>	<u>80,938,350</u>
Total equity and liabilities		<u>1,660,539,560</u>	<u>1,491,130,586</u>
Funds managed/held on behalf of others	28	7,092,603	3,696,622
Funds' net assets managed/held on behalf of others	28	(7,092,603)	(3,696,622)

The accompanying notes form an integral part of these financial statements.

**THE MARITIME AND PORT AUTHORITY OF SINGAPORE
AND ITS SUBSIDIARY**

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

For the financial year ended 31 December 2019

	Note	2019 \$	2018 \$
Operating revenue			
Port dues and marine services	19	283,222,209	281,717,731
Shipping services	19	6,573,119	6,188,376
Rental income	19	4,354,813	4,380,075
Training	19	540,669	807,347
Miscellaneous revenue	19	766,740	377,851
		<u>295,457,550</u>	<u>293,471,380</u>
Operating expenditure			
Staff cost	20	86,606,893	88,369,602
Depreciation of property, plant and equipment	4	18,654,348	18,349,814
Depreciation of right-of-use assets	5	2,494,198	-
Hire of marine craft and sea garbage services		11,642,075	12,101,870
Fuel, repairs and maintenance		18,062,708	16,424,762
Other operating expenses	21	71,039,714	73,774,577
		<u>208,499,936</u>	<u>209,020,625</u>
Operating surplus		86,957,614	84,450,755
Net other operating surplus/(deficit)	22	74,525,727	(23,118,815)
Surplus from operations		<u>161,483,341</u>	<u>61,331,940</u>
Amortisation of deferred capital grant	15	1,261,950	1,449,351
Surplus before contribution to Consolidated Fund		<u>162,745,291</u>	<u>62,781,291</u>
Contribution to Consolidated Fund	23	(27,676,304)	(10,683,274)
Surplus for the year, representing total comprehensive income for the year		<u>135,068,987</u>	<u>52,098,017</u>

There is no other comprehensive income for the financial years ended 31 December 2019 and 2018.

The accompanying notes form an integral part of these financial statements.

**THE MARITIME AND PORT AUTHORITY OF SINGAPORE
AND ITS SUBSIDIARY**

CONSOLIDATED STATEMENT OF CHANGES IN RESERVES

For the financial year ended 31 December 2019

	Establishment account \$	Equity financing account \$	Accumulated surplus \$	Total \$
2019				
Beginning of financial year	147,375,155	3,978,616	1,258,838,465	1,410,192,236
Total comprehensive income for the year				
Surplus for the year	-	-	135,068,987	135,068,987
Dividends paid, representing total transaction with owners, recognised directly in equity	-	-	(5,117,000)	(5,117,000)
End of financial year	147,375,155	3,978,616	1,388,790,452	1,540,144,223
2018				
Beginning of financial year	147,375,155	3,978,616	1,221,305,448	1,372,659,219
Total comprehensive income for the year				
Surplus for the year	-	-	52,098,017	52,098,017
Dividends paid, representing total transaction with owners, recognised directly in equity	-	-	(14,565,000)	(14,565,000)
End of financial year	147,375,155	3,978,616	1,258,838,465	1,410,192,236

The accompanying notes form an integral part of these financial statements.

**THE MARITIME AND PORT AUTHORITY OF SINGAPORE
AND ITS SUBSIDIARY**

CONSOLIDATED STATEMENT OF CASH FLOWS

For the financial year ended 31 December 2019

	Note	2019 \$	2018 \$
Cash flows from operating activities			
Surplus before contribution to Consolidated Fund		162,745,291	62,781,291
Adjustments for:			
- Depreciation of property, plant and equipment	4	18,654,348	18,349,814
- Depreciation of right-of-use assets	5	2,494,198	-
- Net provision/(reversal) of loss allowance for trade receivables	9	51,608	(206,872)
- Provision for employee benefits	14	16,215	11,408
- Amortisation of deferred capital grant	15	(1,261,950)	(1,449,351)
- Interest on lease liabilities	16	181,992	-
- Net investment (gain)/loss from funds with fund managers	22	(70,824,010)	24,613,616
- Gain from sale of equity managed internally		(13,873)	-
- Interest income on bank deposits	22	(3,691,038)	(2,201,017)
- Net loss on disposal of property, plant and equipment	22	198,228	557,394
		108,551,009	102,456,283
Changes in working capital:			
- Trade receivables		(4,930,113)	4,012,287
- Deposits, prepayments and other receivables		(3,121,063)	517,607
- Trade and other payables		5,587,692	8,123,173
- Advances, deposits and unearned income		2,003,237	492,747
Cash generated from operations		108,090,762	115,602,097
Payment of employee benefits	14	(16,215)	(11,408)
Contribution paid to Consolidated Fund	23	-	(24,159,334)
Net cash from operating activities		108,074,547	91,431,355
Cash flows from investing activities			
Withdrawal/(Placement) of industry funds with Accountant-General's Department		33,210,583	(70,531,949)
Proceeds from sale of property, plant and equipment		6,742	37,596
Purchases of property, plant and equipment and capital work-in-progress	4	(24,528,986)	(26,063,718)
Proceeds from withdrawal of funds from custodian		43,901,171	-
Proceeds from sale of equity managed internally		13,873	-
Interest received		2,534,495	2,044,966
Net cash from/(used in) investing activities		55,137,878	(94,513,105)
Cash flows from financing activities			
Dividends paid		(5,117,000)	(14,565,000)
Repayment of lease liability	16	(2,590,453)	-
Net cash used in financing activities		(7,707,453)	(14,565,000)
Net increase/(decrease) in cash and cash equivalents		155,504,972	(17,646,750)
Cash and cash equivalents at beginning of financial year		95,126,739	112,773,489
Cash and cash equivalents at end of financial year	11	250,631,711	95,126,739

The accompanying notes form an integral part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

These notes form an integral part of and should be read in conjunction with the accompanying financial statements.

1. General information

The Maritime and Port Authority of Singapore ("MPA") under the purview of Ministry of Transport, was established on 2 February 1996 under the Maritime and Port Authority of Singapore Act (Cap. 170A) with the merger of the following organisations:

- The National Maritime Board (NMB);
- The Marine Department (MD); and
- The regulatory departments of the Port of Singapore Authority (PSA).

MPA is domiciled in Singapore and the address of its registered office is 460 Alexandra Road, 19th Storey, PSA Building, Singapore 119963.

The principal activities of MPA include the control of vessel movements to ensure a safe and secure port, and also the regulation of the port and marine services and facilities. MPA is the champion agency to develop and promote Singapore as an International Maritime Centre. MPA also represents Singapore regionally and internationally to safeguard Singapore's maritime interests.

The principal activities of its subsidiary and associated company are set out in Note 7.

2. Significant accounting policies

2.1 Basis of preparation

These financial statements have been prepared in accordance with the provisions of the Public Sector (Governance) Act 2018 and the Maritime and Port Authority of Singapore Act (Cap. 170A) and Statutory Board Financial Reporting Standards ("SB-FRS").

The financial statements have been prepared under the historical cost convention except as disclosed in the accounting policies below.

The preparation of financial statements in conformity with SB-FRS requires management to exercise its judgement in the process of applying the Authority's accounting policies. It also requires the use of certain critical accounting estimates and assumptions. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed in Note 3.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.1 Basis of preparation (continued)

Interpretations and amendments to published Standards effective in 2019

On 1 January 2019, the Authority adopted the new or amended SB-FRS and Interpretations of SB-FRS ("INT SB-FRS") that are mandatory for application for the financial year. Changes to the Authority's accounting policies have been made as required, in accordance with the transitional provisions in the respective SB-FRS and INT SB-FRS.

The adoption of these new or amended SB-FRS and INT SB-FRS did not result in substantial changes to the Authority's accounting policies and had no material effect on the amounts reported for the current or prior financial years except as disclosed below.

SB-FRS 116 - Leases

SB-FRS 116 introduces new or amended requirements with respect to lease accounting. It introduces significant changes to lessee accounting by removing the distinction between operating and finance lease and requiring the recognition of a right-of-use asset and a lease liability at commencement for all leases, except for short-term leases and leases of low value assets when such recognition exemptions are adopted. In contrast to lessee accounting, the requirements for lessor accounting have remained largely unchanged. The impact of the adoption of SB-FRS 116 on the Authority's consolidated financial statements is described below.

The date of initial application of SB-FRS 116 for the Authority is 1 January 2019.

The Authority has applied SB-FRS 116 using the modified retrospective approach. Comparatives will therefore continue to be presented under SB-FRS 17 and INT SB-FRS 104.

(a) Impact of the new definition of a lease

The Authority has made use of the practical expedient available on transition to SB-FRS 116 not to reassess whether a contract is or contains a lease. Accordingly, the definition of a lease in accordance with SB-FRS 17 and SB-FRS INT 104 will continue to be applied to those leases entered or changed before 1 January 2019.

The change in definition of a lease mainly relates to the concept of control. SB-FRS 116 determines whether a contract contains a lease on the basis of whether the customer has the right to control the use of an identified asset for a period of time in exchange for consideration. This is in contrast to the focus on 'risk and rewards' in SB-FRS 17 and SB-FRS INT104.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.1 Basis of preparation (continued)

Interpretations and amendments to published Standards effective in 2019
(continued)

SB-FRS 116 – Leases (continued)

(a) Impact of the new definition of a lease

The Authority applies the definition of a lease and related guidance set out in SB-FRS 116 to all lease contracts entered into or modified on or after 1 January 2019 (whether it is a lessor or a lessee in the lease contract). The new definition in SB-FRS 116 does not significantly change the scope of contracts that meet the definition of a lease for the Authority.

(b) Impact on lessee accounting

Former operating leases

SB-FRS 116 changes how the Authority accounts for leases previously classified as operating lease under SB-FRS 17, which were off-balance-sheet.

Applying SB-FRS 116, for all leases, the Authority:

- (i) Recognises right-of-use assets and lease liabilities in the statements of financial position, initially measured at the present value of the remaining lease payments, with the right-of-use asset adjusted by the amount of any prepaid or accrued lease payments in accordance with SB-FRS 116:C8(b)(ii);
- (ii) Recognises depreciation of right-of-use assets and interest on lease liabilities in the consolidated statement of comprehensive income;
- (iii) Separates the total amount of cash paid into principal portion (presented within financing activities) and interest (presented within operating activities) in the consolidated statement of cash flows.

Lease incentives (e.g. free rent periods) are recognised as part of the measurement of the right-of-use assets and lease liabilities whereas under SB-FRS 17 they resulted in the recognition of a lease incentive liability, amortised as a reduction of rental expense on a straight-line basis.

Under SB-FRS 116, right-of-use assets are tested for impairment in accordance with SB-FRS 36 *Impairment of Assets*.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.1 Basis of preparation (continued)

Interpretations and amendments to published Standards effective in 2019
(continued)

SB-FRS 116 – Leases (continued)

(b) Impact on lessee accounting (continued)

For short-term leases (lease term of 12 months or less) and leases of low-value assets, the Authority has opted to recognise a lease expense on a straight line basis as permitted by SB-FRS 116. This expense is presented within other operating expenses in the consolidated statement of comprehensive income.

The Authority has used the following practical expedients when applying the modified retrospective approach to leases previously classified as operating lease applying SB-FRS 17.

- The Authority has applied a single discount rate to a portfolio of leases with reasonably similar characteristics.
- The Authority has elected not to recognise right-of-use assets and lease liabilities to leases for which the lease term ends within 12 months of the date of initial application.
- The Authority has excluded initial direct cost from the measurement of the right-of-use asset at the date of initial application.
- The Authority has used hindsight when determining the lease term when the contract contains options to extend or terminate the lease.

(c) Impact on lessor accounting

SB-FRS 116 does not change substantially how a lessor accounts for leases. Under SB-FRS 116, a lessor continues to classify leases as either finance lease or operating leases and account for those two types of leases differently.

However, SB-FRS 116 has changed and expanded the disclosures required, in particular regarding how a lessor manages the risks arising from its residual interest in leased assets.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.1 Basis of preparation (continued)

Interpretations and amendments to published Standards effective in 2019
(continued)

SB-FRS 116 – Leases (continued)

(d) Financial impact of initial application of SB-FRS 116

The weighted average lessee's incremental borrowing rate applied to the lease liabilities recognised in the consolidated balance sheet on 1 January 2019 is 3.2%.

The following table shows the operating lease commitments disclosed applying SB-FRS 17 at 31 December 2018, discounted using the incremental borrowing rate at the date of initial application and the lease liabilities recognised in the consolidated balance sheet at the date of initial application.

	2019 \$
Operating lease commitments at 31 December 2018 (note 25)	17,180,267
Less: Short-term leases and leases of low value assets	(13,774,492)
Less: Effect of discounting the above amounts	(392,924)
Add: Present value of the lease payments not previously included in operating lease commitments	3,610,778
Lease liabilities recognised at 1 January 2019	<u>6,623,629</u>

Right-of-use assets were measured at the amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments relating to that lease recognised in the consolidated balance sheet immediately before the date of initial application. Consequently, right-of-use assets of \$6,623,629 were recognised on 1 January 2019. There was no impact on prepayments.

As at the date of authorisation of these financial statements, management anticipates that the adoption of SB-FRS, INT SB-FRSs and amendments to SB-FRSs that were issued but not yet effective will not have a material impact on the financial statements in the period of their adoption.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.2 Revenue recognition

Revenue is measured based on the consideration specified in a contract with a customer and excludes amounts collected on behalf of third parties. The Authority recognises revenue when it transfers control of a product or service to a customer. Revenue comprises the fair value of the consideration received or receivable for the rendering of services in the ordinary course of the Authority's activities. Revenue is presented net of goods and services tax, rebates and discounts.

The Authority recognises revenue when the amount of revenue and related cost can be reliably measured, it is probable that the collectability of the related receivables is reasonably assured and when the specific criteria for each of the Authority's activities are met as follows:

(a) *Port dues and marine services*

Dues, licence and permit fees, and agency fee are recognised over time as and when services are performed. Any other marine services are recognised as and when the services are completed.

(b) *Training revenue*

Training revenue are recognised over time as and when services are performed.

(c) *Shipping services*

Shipping services, which comprise registration fees and seaman engagement and discharge fees, are recognised as and when services are completed. Annual payment scheme, such as annual administrative fee, will be recognised over time as and when services are performed.

(d) *Rental income*

Rental income from operating leases (net of any incentives given to the lessees) is recognised on a straight-line basis over lease term.

(e) *Interest income*

Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable.

(f) *Dividend income*

Dividend income is recognised when the right to receive payment is established.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2.3 Government grants

Government grants received for the purchase or the construction of depreciable assets are accounted for as deferred capital grants. The deferred capital grants are amortised and charged to income or expenditure over the period necessary to match the annual depreciation charge of these assets or when the assets are disposed or written off. Where the grants relate to an expense item, they are recognised in income or expenditure over the periods necessary to match them on a systematic basis, to the costs, which they are intended to compensate.

2.4 Group accounting

(a) Subsidiary

A subsidiary is an entity over which the Authority has control. The Authority controls an entity when the Authority is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. A subsidiary is fully consolidated from the date on which control is transferred to MPA. It is deconsolidated from the date on that control ceases.

(b) Associated company

Associated company is an entity over which the Authority has significant influence, but not control, generally accompanied by a shareholding giving rise to voting rights of 20% and above but not exceeding 50%.

Investments in associated company is accounted for in the consolidated financial statements using the equity method of accounting less impairment losses, if any.

To the extent MPA's associated company is limited by guarantee and it does not share in their profits or losses, MPA records its contributions to associated company as grants in the consolidated statement of comprehensive income.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2.5 Property, plant and equipment

(a) Measurement

Property, plant and equipment are initially recognised at cost and subsequently carried at cost less accumulated depreciation and accumulated impairment losses.

The cost of an item of property, plant and equipment initially recognised includes its purchase price and any cost that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

The cost of a self-constructed asset includes the cost of materials and direct labour, any other costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management, and the cost of dismantling and removing the items and restoring the site on which they are located. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Assets previously from the former National Maritime Board, the Marine Department and the regulatory departments of the Port of Singapore Authority were taken in at their transacted cost.

Property, plant and equipment acquired and funded under Government grants are capitalised and depreciated over their useful lives. The related accretion of deferred capital grants is matched against the depreciation (please refer to Note 2.3).

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.5 Property, plant and equipment (continued)

(b) Depreciation

Depreciation on property, plant and equipment is calculated using the straight-line method to allocate their depreciable amounts over their estimated useful lives as follows:

	<u>Useful lives</u>
Leasehold land	Over the remaining lease periods ranging from 4 to 59 years
Building structures	Over the lease periods ranging from 3 to 28 years
Wharves, hard-standing and roads	Over the lease periods ranging from 3 to 25 years
Renovation	8 years
Plant, machinery and equipment	5 to 15 years
Vehicles	10 years
Computers	5 years
Furniture and fittings	8 years
Floating crafts	8 or 15 years

The residual values, estimated useful lives and depreciation method of property, plant and equipment are reviewed, and adjusted as appropriate, at each balance sheet date. The effects of any revision are recognised in income or expenditure when the changes arise.

(c) Subsequent expenditure

Subsequent expenditure relating to property, plant and equipment that has already been recognised is added to the carrying amount of the asset only when it is probable that future economic benefits associated with the item will flow to the Authority and the cost of the item can be measured reliably. All other repair and maintenance expenses are recognised in income or expenditure when incurred.

(d) Disposal

On disposal of an item of property, plant and equipment, the difference between the disposal proceeds and its carrying amount is recognised in income or expenditure within "Net other operating surplus".

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.6 Capital work-in-progress

Capital work-in-progress is stated at cost. Expenditure relating to the capital work-in-progress is capitalised when incurred. No depreciation is provided until the capital work-in-progress is completed and the related property, plant and equipment are available for use.

2.7 Impairment of non-financial assets

Property, plant and equipment

Right-of-use assets

Capital work-in-progress

Investments in subsidiary and associated company

Property, plant and equipment, right-of use assets, capital work-in-progress and investments in subsidiary and associated company are tested for impairment whenever there is any objective evidence or indication that these assets may be impaired.

For the purpose of impairment testing, the recoverable amount (i.e. the higher of the fair value less cost to sell and the value-in-use) is determined on an individual asset basis unless the asset does not generate cash inflows that are largely independent of those from other assets. If this is the case, the recoverable amount is determined for the CGU to which the asset belongs.

If the recoverable amount of the asset (or CGU) is estimated to be less than its carrying amount, the carrying amount of the asset (or CGU) is reduced to its recoverable amount.

The difference between the carrying amount and recoverable amount is recognised as an impairment loss in income or expenditure.

An impairment loss for an asset other than goodwill is reversed only if, there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. The carrying amount of this asset is increased to its revised recoverable amount, provided that this amount does not exceed the carrying amount that would have been determined (net of any accumulated amortisation or depreciation) had no impairment loss been recognised for the asset in prior years. A reversal of impairment loss for an asset other than goodwill is recognised in income or expenditure.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.8 Financial assets

(a) Classification

The Authority classifies its financial assets in the following categories: amortised cost and fair value through profit or loss ("FVTPL") under SB-FRS 109. The classification depends on the nature of the asset and the purpose for which the assets were acquired. The Authority determines the classification of its financial assets at initial recognition, based on SB-FRS 109's Business Model and Contractual Cash Flows tests.

(i) Financial Assets held at Amortised Cost

Financial assets held at Amortised Cost comprises mainly non-derivative cash and bank balances and trade and other receivables with fixed or determinable payments that are not quoted in an active market. They are presented as current assets except for those expected to be realised later than 12 months after the balance sheet date which are presented as non-current assets. These financial assets are presented as "trade receivables" (Note 9), "other receivables" (Note 10) and "cash and cash equivalents" (Note 11) on the balance sheet.

(ii) Financial assets held at Fair Value through Profit or Loss ("FVTPL")

Financial assets held at FVTPL are non-derivatives that are either classified or designated in this category. They are presented as non-current assets unless the investment matures or the Authority intends to dispose of the assets within 12 months after the balance sheet date.

The Authority's investments in equity and debt securities, including equity and debt securities placed by fund managers, where investment performance is evaluated on a fair value (total return) basis, are classified as FVTPL financial assets.

(b) Recognition and derecognition

Regular way purchases and sales of financial assets are recognised on trade-date - the date on which the Authority commits to purchase or sell the asset.

Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the Authority has transferred substantially all risks and rewards of ownership. On disposal of a financial asset, the difference between the carrying amount and the sale proceeds is recognised in income or expenditure. Any amount previously recognised in other comprehensive income relating to that asset is reclassified to income or expenditure.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.8 Financial assets (continued)

(c) Initial measurement

Except for trade receivables measured at transaction price, at initial recognition, financial assets are measured at its fair value plus or minus, in the case of a financial asset or financial liability not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition or issue of the financial asset. Financial assets held at FVTPL are recognised at fair value.

(d) Subsequent measurement

FVTPL financial assets are subsequently carried at fair value. Trade and other receivables are subsequently carried at amortised cost using the effective interest method.

Interest and dividend income on FVTPL financial assets, and changes in fair values of FVTPL debt and equity securities are recognised in income or expenditure.

(e) Impairment

The Authority recognises a loss allowance for expected credit losses ("ECL") on trade and other receivables. The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument.

The Authority recognises lifetime ECL for trade receivables. The expected credit losses on these financial assets are estimated using a provision matrix based on the Authority's historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current as well as the forecast direction of conditions at the reporting date, including time value of money where appropriate.

For all other financial instruments, the Authority recognises lifetime ECL when there has been a significant increase in credit risk since initial recognition. If, on the other hand, the credit risk on the financial instrument has not increased significantly since initial recognition, the Authority measures the loss allowance for that financial instrument at an amount equal to 12-month ECL. The assessment of whether lifetime ECL should be recognised is based on significant increases in the likelihood or risk of a default occurring since initial recognition instead of on evidence of a financial asset being credit-impaired at the reporting date or an actual default occurring.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.8 Financial assets (continued)

(e) Impairment (continued)

Significant increase in credit risk

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the Authority compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition. In making this assessment, the Authority considers historical loss rates for each category of customers and adjusts to reflect current and forward-looking macroeconomic factors affecting the ability of the customers to settle the receivables. The Authority has identified the credit default risk for logistics and transportation industry to be the most relevant factors, and accordingly adjusts the historical loss rates based on expected changes in these factors.

The Authority presumes that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the Authority has reasonable and supportable information that demonstrates otherwise.

The Authority assumes that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have low credit risk at the reporting date. A financial instrument is determined to have low credit risk if i) the financial instrument has a low risk of default, ii) the borrower has a strong capacity to meet its contractual cash flow obligations in the near term and iii) adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil its contractual cash flow obligations.

The Authority regularly monitors the effectiveness of the criteria used to identify whether there has been a significant increase in credit risk and revises them as appropriate to ensure that the criteria are capable of identifying significant increase in credit risk before the amount becomes past due.

Definition of default

The Authority considers that default has occurred when a financial asset is more than 90 days past due unless the Authority has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.8 Financial assets (continued)

(e) Impairment (continued)

Credit-impaired financial assets

A financial asset is credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred.

Write-off policy

The Authority writes off a financial asset when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings, or in the case of trade receivables, when the chances of recovery are remote. Financial assets written off may still be subject to enforcement activities under the Authority's recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognised in income or expenditure.

Measurement and recognition of expected credit losses

For financial assets, the expected credit loss is estimated as the difference between all contractual cash flows that are due to the Authority in accordance with the contract and all the cash flows that the Authority expects to receive, discounted at the original effective interest rate.

If the Authority has measured the loss allowance for a financial instrument at an amount equal to lifetime ECL in the previous reporting period, but determines at the current reporting date that the conditions for lifetime ECL are no longer met, the Authority measures the loss allowance at an amount equal to 12-month ECL at the current reporting date.

2.9 Offsetting financial instruments

Financial assets and liabilities are offset and the net amount reported in the balance sheet when there is a legally enforceable right to offset and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.10 Trade and other payables

Trade and other payables represent liabilities for goods and services provided to the Authority prior to the end of financial year which are unpaid. They are classified as current liabilities if payment is due within one year or less (or in the normal operating cycle of the business if longer). Otherwise, they are presented as non-current liabilities.

Trade and other payables are initially recognised at fair value, and subsequently carried at amortised cost using the effective interest method.

2.11 Derivative financial instruments

The Authority engages external fund managers to manage some of its surplus funds. The Authority is exposed primarily to the financial risks of foreign exchange and interest rate fluctuations on debt and equity securities and cash and cash equivalents placed by the fund managers. The fund managers also hold derivative financial instruments to manage these risks. The use of hedging instruments is governed by the Authority's investment mandate which provides guidelines on the use of financial instruments consistent with the Authority's risk management strategy.

A derivative financial instrument is initially recognised at its fair value on the date the contract is entered into and is subsequently carried at its fair value. Changes in fair value are recognised in income or expenditure.

2.12 Fair value estimation of financial assets and liabilities

The fair values of financial instruments traded in active markets (such as exchange-traded and over-the-counter securities and derivatives) are based on quoted market prices at the balance sheet date. The quoted market prices used for financial assets are the current bid prices; the appropriate quoted market prices for financial liabilities are the current asking prices.

The fair values of financial instruments that are not traded in an active market are determined by using valuation techniques. The Authority uses a variety of methods and makes assumptions based on market conditions that are existing at each balance sheet date. Where appropriate, quoted market prices or dealer quotes for similar instruments are used. Valuation techniques, such as discounted cash flow analysis, are also used to determine the fair values of the financial instruments.

The fair values of current financial assets and liabilities carried at amortised cost approximate their carrying amounts.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.13 Leases

(a) Leases (Before 1 January 2019)

(i) The Authority as lessee

Lessee – operating leases

Leases where substantially all risks and rewards incidental to ownership are retained by the lessors are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessors) are recognised in income or expenditure on a straight-line basis over the period of the lease.

Contingent rents are recognised as an expense in income or expenditure when incurred.

(ii) The Authority as lessor

Lessor - Operating leases

Leases of leasehold land where the Authority retains substantially all risks and rewards incidental to ownership are classified as operating leases. Rental income from operating leases (net of any incentives given to the lessees) is recognised in income or expenditure on a straight-line basis over the lease term.

Initial direct costs incurred by the Authority in negotiating and arranging operating leases are added to the carrying amount of the leased assets and recognised as an expense in income or expenditure over the lease term on the same basis as the lease income.

Contingent rents are recognised as income in income or expenditure when earned.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.13 Leases (continued)

(b) Leases (From 1 January 2019)

(i) The Authority as lessee

The Authority assess whether a contract is or contains a lease, at inception of the contract. The Authority recognises a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term lease (defined as leases with a lease term of 12 months or less) and leases of low value assets. For these leases, the Authority recognises the lease payments as an operating expense on a straight-line basis over the lease term of the lease unless another systematic basis is more representative of the time pattern in which economic benefits from the leased assets are consumed.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Authority uses the incremental borrowing rate specific to the lessee.

Lease payments included in the measurement of the lease liability comprise:

- fixed lease payments (including in-substance fixed payments), less any lease incentives;
- variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- the amount expected to be payable by the lessee under residual value guarantees;
- the exercise price of purchase options, if the lessee is reasonably certain to exercise the options; and
- payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

The lease liability is presented as a separate line in the consolidated balance sheet.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.13 Leases (continued)

(b) Leases (From 1 January 2019) (continued)

(i) The Authority as lessee (continued)

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The Authority remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) whenever:

- the lease term has changed or there is significant event or change in circumstances resulting in a change in the assessment of exercise of a purchase option, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate;
- the lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which cases the lease liability is remeasured by discounting the revised lease payments using the initial discount rate (unless the lease payments change is due to a change in a floating interest rate, in which case a revised discount rate is used); or
- a lease contract is modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate at the effective date of the modification.

The right-of-use assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day, less any lease incentives received and any initial direct costs. They are subsequently measured at cost less accumulated depreciation and impairment losses.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.13 Leases (continued)

(b) Leases (From 1 January 2019) (continued)

(i) The Authority as lessee (continued)

Whenever the Authority incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognised and measured under SB-FRS 37. To the extent that the costs relate to a right-of-use asset, the costs are included in the related right-of-use asset.

Right-of-use assets are depreciated over the shorter period of lease term and useful life of the underlying asset. If a lease transfers ownership of the underlying asset or the cost of the right-of-use asset reflects that the Authority expects to exercise a purchase option, the related right-of-use asset is depreciated over the useful life of the underlying asset. The depreciation starts at the commencement date of the lease.

The right-of-use assets are presented as a separate line in the consolidated balance sheet.

The Authority applies SB-FRS 36 to determine whether a right-of-use asset is impaired and accounts for any identified impairment loss as described in Note 2.7.

Variable rents that do not depend on an index or rate are not included in the measurement of the lease liability and the right-of-use asset. The related payments are recognised as an expense in the period in which the event or condition that triggers those payments occurs and are included in the line "Other operating expenses" in the consolidated statement of comprehensive income.

As a practical expedient, SB-FRS 116 permits a lessee not to separate non-lease components, and instead account for any lease and associated non-lease components as a single arrangement. The Authority has not used this practical expedient. For a contract that contains a lease component and one or more additional lease or non-lease components, the Authority allocates the consideration in the contract to each lease component on the basis of the relative stand-alone price of the lease component and the aggregate stand-alone price of the non-lease components.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.13 Leases (continued)

(b) Leases (From 1 January 2019) (continued)

(ii) The Authority as lessor

The Authority enters into lease agreements as a lessor with respect to rental space and buildings.

Leases for which the Authority is a lessor are classified as finance or operating lease. Whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee, the contract is classified as a finance lease. All other leases are classified as operating lease.

Rental income from operating leases is recognised on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised on a straight-line basis over the leased term.

When a contract includes lease and non-lease components, the Authority applies SB-FRS 15 to allocate the consideration under the contract to each component.

2.14 Provisions

A provision is recognised when the Authority has a present legal or constructive obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, the receivable is recognised as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.15 Employee compensation

Employment benefits are recognised as an expense, unless the cost qualifies to be capitalised as an asset.

(a) *Defined contribution plans*

Defined contribution plans are post-employment benefit plans under which the Authority pays fixed contributions into separate entities such as the Central Provident Fund on a mandatory, contractual or voluntary basis. The Authority has no further payment obligations once the contributions have been paid.

(b) *Pension benefits*

Provision for pensions is made for the payment of retirement benefits to pensionable officers transferred to the Authority on 2 February 1996.

The cost of pension benefit due to pensionable officers is determined based on the estimated present value of the future cash outflows to be made in respect of services provided by these pensionable officers up to the balance sheet date.

(c) *Employee leave entitlement*

Employee entitlements to annual leave are recognised when they accrue to employees. A provision is made for the estimated liability for annual leave as a result of services rendered by employees up to the balance sheet date.

2.16 Currency translation

(a) *Functional and presentation currency*

The financial statements are presented in Singapore Dollars, which is the functional currency of the Authority.

NOTES TO THE FINANCIAL STATEMENTS

For the financial year ended 31 December 2019

2. Significant accounting policies (continued)

2.16 Currency translation (continued)

(b) *Transactions and balances*

Transactions in a currency other than Singapore Dollar ("foreign currency") are translated into Singapore Dollars using the exchange rates at the dates of the transactions. Currency exchange differences resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at the closing rates at the balance sheet date are recognised in income or expenditure. Non-monetary items measured at fair values in foreign currencies are translated using the exchange rates at the date when the fair values are determined. Currency translation differences on these items are included in income or expenditure.

2.17 Cash and cash equivalents

For the purpose of presentation in the consolidated statement of cash flows, cash and cash equivalents include cash on hand, deposits with financial institutions, commercial papers, short-term bills and notes which are readily convertible to cash and are subject to an insignificant risk of change in value, and bank overdrafts, except those which are managed by the fund managers or which are placed under the Statutory Board Approved Funds with the Accountant-General's Department. Bank overdrafts are presented as current borrowings on the consolidated balance sheet.

2.18 Funds managed/held on behalf of others

Funds are set up to account for contributions received from external sources for specific purposes.

The assets and liabilities of funds - Singapore Stranded Seafarers' Fund, and agency funds held in trust for Ministry of Transport are presented as a line item at the bottom of the consolidated balance sheet of the financial statements as prescribed by SB-FRS Guidance Note 3 *Accounting and Disclosures for Trust Funds*. Income or expenditure relating to these funds are accounted for directly in these funds. Details of income, expenditure, assets and liabilities are disclosed in Note 28 to the financial statements.

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

3. Critical accounting estimates, assumptions and judgements

Estimates, assumptions and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

3.1 Critical accounting estimates and assumptions

Useful lives of property, plant and equipment

The Authority reviews the estimated useful lives of property, plant and equipment regularly, in accordance with the accounting policy in Note 2.5, in order to determine the amount of depreciation expense to be recorded for each financial year. Changes in the expected level of use of the assets and the Authority's historical experience with similar assets after taking into account anticipated technological changes could impact the economic useful lives and the residual values of the assets, and therefore, future depreciation charges could be revised. Any changes in the economic useful lives could impact the depreciation charges and consequently affect the Authority's results. Refer to Note 4 for the carrying value of property, plant and equipment at the balance sheet date.

3.2 Critical judgements in applying the entity's accounting policies

Accounting for investments in and contributions to associated company

MPA has determined that it has significant influence over its associated company based on the voting rights of 20% and above but not exceeding 50%, held by its representatives at the board of directors of the associated company. As the associated company are incorporated as companies limited by guarantee and MPA does not share in their profits or losses, MPA has recorded the contributions of \$5,171,945 (2018: \$10,507,512) made to the associated company as grant expenditure in the consolidated statement of comprehensive income.

THE MARITIME AND PORT AUTHORITY OF SINGAPORE
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NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

4. Property, plant and equipment

	Leasehold land	Building structures	Wharves, hard-standing and roads	Renovation	Plant, machinery and equipment	Vehicles	Computers	Furniture and fittings	Floating crafts	Capital work-in-progress	Total
2019											
Cost											
Beginning of financial year	8,319,830	60,947,764	120,378,140	12,500,592	14,611,031	669,276	85,761,882	3,145,626	9,867,425	10,743,480	326,945,046
Additions	-	-	-	2,764,150	1,931,386	-	14,323,192	579,581	-	4,930,677	24,528,986
Transfers	131,370	(3,221,191)	-	3,340,437	1,182,089	-	4,765,608	17,150	(22,950)	(6,192,513)	-
Disposals/write-off	(1,910)	(40,470)	-	(449,344)	(1,276,678)	-	(2,292,900)	(180,213)	(75,449)	-	(4,316,964)
End of financial year	8,449,290	57,686,103	120,378,140	18,155,835	16,447,828	669,276	102,557,782	3,562,144	9,769,026	9,481,644	347,157,068
Accumulated depreciation											
Beginning of financial year	3,900,932	39,953,471	78,420,451	10,632,447	11,444,470	213,407	70,298,021	1,599,822	7,397,270	-	223,860,291
Depreciation charge	351,651	1,592,307	6,538,221	960,543	922,130	66,928	7,610,492	347,058	285,018	-	18,654,348
Transfers	-	(687,799)	-	423,884	275,007	-	-	-	(11,092)	-	-
Disposals/write-off	-	(40,470)	-	(395,531)	(1,172,630)	-	(2,292,900)	(150,043)	(60,420)	-	(4,111,994)
End of financial year	4,252,583	40,817,509	84,958,672	11,621,343	11,468,977	280,335	75,615,613	1,796,837	7,590,776	-	238,402,645
Carrying amount:											
End of financial year	4,196,707	16,868,594	35,419,468	6,534,492	4,978,851	388,941	26,942,169	1,765,307	2,178,250	9,481,644	108,754,423
2018											
Cost											
Beginning of financial year	7,641,956	60,286,096	99,360,632	12,501,607	15,566,625	669,276	83,581,240	3,467,164	9,871,825	12,733,224	305,679,645
Additions	-	295,082	-	13,500	620,051	-	2,270,362	65,900	-	22,798,823	26,063,718
Transfers	677,874	425,986	21,017,508	-	-	-	2,667,199	-	-	(24,788,567)	-
Disposals/write-off	-	(59,400)	-	(14,515)	(1,575,645)	-	(2,756,919)	(387,438)	(4,400)	-	(4,798,317)
End of financial year	8,319,830	60,947,764	120,378,140	12,500,592	14,611,031	669,276	85,761,882	3,145,626	9,867,425	10,743,480	326,945,046
Accumulated depreciation											
Beginning of financial year	3,499,625	38,082,470	72,755,814	9,622,287	11,325,728	146,479	65,795,314	1,585,727	6,900,360	-	209,713,804
Depreciation charge	401,307	1,930,401	5,164,637	1,017,664	1,206,774	66,928	7,210,256	350,537	501,310	-	18,349,814
Disposals/write-off	-	(59,400)	-	(7,504)	(1,088,032)	-	(2,707,549)	(336,442)	(4,400)	-	(4,203,327)
End of financial year	3,900,932	39,953,471	78,420,451	10,632,447	11,444,470	213,407	70,298,021	1,599,822	7,397,270	-	223,860,291
Carrying amount:											
End of financial year	4,418,898	20,994,293	41,957,689	1,868,145	3,166,561	455,869	15,463,861	1,545,804	2,470,155	10,743,480	103,084,755

During the financial year ended 31 December 2019, certain property, plant and equipment were reclassified within categories for better reflection of the nature of these assets. These reclassifications have no impact on the total cost and accumulated depreciation reported for the financial year ended 31 December 2018.

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NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

5. Right-of-use assets

The Authority leases a number of building structures, plant, machinery and equipment and floating crafts. The average lease term is 4 years.

	Building structures \$	Plant, machinery and equipment \$	Floating crafts \$	Total \$
2019				
Cost				
Beginning of financial year	5,114,505	-	1,509,124	6,623,629
Additions	147,113	36,168	-	183,281
End of financial year	5,261,618	36,168	1,509,124	6,806,910
Accumulated depreciation				
Beginning of financial year	-	-	-	-
Depreciation charge	2,109,884	7,033	377,281	2,494,198
End of financial year	2,109,884	7,033	377,281	2,494,198
Carrying amount:				
End of financial year	3,151,734	29,135	1,131,843	4,312,712

During the financial year, the expired contracts for building structures and plant, machinery and equipment were replaced by new leases for similar underlying assets. This resulted in additions to right-of-use assets of \$183,281 in 2019.

6. Capital work-in-progress

Capital work-in-progress relates mainly to the cost of computer systems and maritime and port projects under development. Additions during the year amounted to \$4,930,677 (2018: \$22,798,823).

7. Investments in subsidiary and associated company

(a) Subsidiary

	2019 \$	2018 \$
Cost of investment		
At beginning and end of financial year	2	2

Details of the subsidiary are as follows:

Name of subsidiary	Country of incorporation	Effective equity held by the Authority	
		2019 %	2018 %
MPA Venture Pte. Ltd.	Singapore	100	100

The principal activity of the subsidiary is to act as a holding company to own jointly intellectual properties and manage investments in maritime technology start-ups and companies and joint ventures with partners.

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NOTES TO THE FINANCIAL STATEMENTS
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7. Investments in subsidiary and associated company (continued)

(b) Associated company

(i) Singapore Maritime Institute

In January 2011, the Authority, together with Agency for Science, Technology and Research ("A*STAR"), incorporated Singapore Maritime Institute ("SMI"), a company limited by guarantee. The principal activity of SMI is to develop strategies and programmes related to the academic, policy and research and development aspects of the maritime industry. As at 31 December 2019, the Authority had contributed a total amount of \$55,650,633 (2018: \$47,450,633) of grants to SMI (including unutilised amount of \$3,944,364 (2018: \$916,309)).

8. Financial assets

	2019 \$	2018 \$
Non-current investments		
Classified as Fair Value through Profit or Loss:		
- Quoted equity securities managed by fund managers	217,404,602	161,179,787
- Quoted debt securities managed by fund managers		
- Government bonds	209,302,314	249,832,045
- Corporate Bonds	188,160,912	128,177,111
	614,867,828	539,188,943

The Authority manages its holding of investments in quoted equity securities on a portfolio level with the objective of ensuring long term growth of its portfolio. The objective is not to collect contractual cash flows, nor is it to collect contractual cash flows and by selling these securities. These securities have no fixed maturity or coupon rate. The fair values of these securities are based on closing quoted market prices on the last market day of the financial year.

The investment in quoted debt securities are held by the Authority for trading purposes with the objective of ensuring long term growth of its portfolio. The fair values of these securities are based on closing quoted market prices on the last market day of the financial year.

Investment income, amounting to \$70,824,010 (2018: loss of \$24,613,616) have been included in income or expenditure for the financial year as part of "net other operating surplus/(deficit)" in note 22.

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NOTES TO THE FINANCIAL STATEMENTS
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9. Trade receivables

	2019 \$	2018 \$
Trade receivables	50,300,945	45,370,833
Less: Loss allowance	(85,424)	(33,816)
Trade receivables - net	50,215,521	45,337,017

The Authority's exposure to credit risk arises through its trade receivables. Due to the nature of the Authority's business, credit risk is not concentrated in any specific geographical region but concentrated in many shipping companies exposed to business cyclical fluctuations.

Trade receivables are mainly denominated in Singapore Dollar, which is the Authority's functional currency.

Impairment losses

The average credit period on sale of goods is 30 days (2018: 30 days).

The loss allowance on trade receivables has been measured at an amount equal to lifetime expected credit losses. In addition, trade receivable is written off when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery.

The following tables detail the risk profile of trade receivables from contracts with customers based on the Authority's provision matrix for 2019, as well as the analysis of trade receivables for 2018. As the Authority's historical credit loss experience show significantly different loss patterns for different customer segments (including normal and low risk type), the provision for loss allowance based on past due status is further distinguished between the Authority's customer segment of different risk type.

Normal risk type customers				
	ECL rate	Estimated total gross carrying amount at default \$	Lifetime ECL \$	Total \$
2019				
Current	-	43,740,714	-	43,740,714
1 - 30 days	0.19%	157,553	(303)	157,250
31 - 60 days	2.22%	533,193	(11,829)	521,364
61 - 90 days	7.90%	349,109	(27,582)	321,527
> 90 days	10.05%	454,774	(45,710)	409,064
Total		45,235,343	(85,424)	45,149,919

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9. Trade receivables (continued)

Low risk type customers				
	ECL rate	Estimated total gross carrying amount at default \$	Lifetime ECL \$	Total \$
2019				
Current	-	111,562	-	111,562
1 - 30 days	-	-	-	-
31 - 60 days	-	85,895	-	85,895
61 - 90 days	-	4,319	-	4,319
> 90 days	-	4,863,826	-	4,863,826
Total		5,065,602	-	5,065,602

Normal risk type customers				
	ECL rate	Estimated total gross carrying amount at default \$	Lifetime ECL \$	Total \$
2018				
Current	-	43,537,319	-	43,537,319
1 - 30 days	-	163,506	-	163,506
31 - 60 days	0.8%	42,181	(325)	41,856
61 - 90 days	4.6%	16,231	(746)	15,485
> 90 days	17.8%	183,506	(32,745)	150,761
Total		43,942,743	(33,816)	43,908,927

Low risk type customers				
	ECL rate	Estimated total gross carrying amount at default \$	Lifetime ECL \$	Total \$
2018				
Current	-	-	-	-
1 - 30 days	-	-	-	-
31 - 60 days	-	57,224	-	57,224
61 - 90 days	-	1,333,280	-	1,333,280
> 90 days	-	37,586	-	37,586
Total		1,428,090	-	1,428,090

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9. Trade receivables (continued)

The movements in credit loss allowance are as follows:

	2019 \$	2018 \$
Beginning of financial year	33,816	359,298
Loss allowance recognised in income or expenditure during the year on:		
- Asset originated	85,424	33,816
- Reversal of unutilised amounts	(33,816)	(240,688)
	51,608	(206,872)
Receivables written off as uncollectible	-	(118,610)
End of financial year	85,424	33,816

Based on historical default rate, the Authority believes that, apart from the above, no impairment allowance is necessary in respect of other trade receivables outstanding at the balance sheet date.

10. Deposits, prepayments and other receivables

	2019 \$	2018 \$
Deposits	656,946	526,891
Prepayments	1,641,500	1,144,144
Other receivables	4,543,620	8,740,267
Amount due from associate & trust funds (non-trade)	4,212,719	916,459
	8,756,339	9,656,726
Interest receivable	5,312,576	4,413,105
	16,367,361	15,740,866

Other receivables mainly comprise dividends receivable, receivables on sale of financial instruments and derivative assets.

As at the balance sheet date, other receivables and accrued interest receivable include the following items managed by fund managers:

	2019 \$	2018 \$
Interest receivable	2,842,238	3,099,310
Receivables on sale of financial instruments	140,538	2,956,234
Forward foreign exchange purchases (net)	3,602,924	4,171,110
Other receivables (mainly dividend receivables and withholding tax receivables)	401,739	411,897
	6,987,439	10,638,551

The Authority has not made any allowance for ECL on the financial assets as the Authority is of the view that these are recoverable.

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11. Cash and cash equivalents

	2019 \$	2018 \$
Cash at bank and on hand	33,095,406	98,696,027
Placement with Accountant-General's Department	735,608,159	610,942,915
- Statutory Board Approved Funds ("SBAF")	489,257,187	522,467,770
- Centralised Liquidity Management Framework ("CLMF")	246,350,972	88,475,145
Short-term bills and notes	97,318,150	77,088,373
Fixed deposits	-	1,051,690
	866,021,715	787,779,005

For the purpose of presenting the consolidated statement of cash flows, cash and cash equivalents comprise the following:

	2019 \$	2018 \$
Cash and bank balances (as above)	866,021,715	787,779,005
Less: Cash and cash equivalents managed by fund managers	(126,132,817)	(170,184,496)
Less: Placement with SBAF	(489,257,187)	(522,467,770)
Cash and cash equivalents per consolidated statement of cash flows	250,631,711	95,126,739

The Authority's cash and cash equivalents (excluding those managed by fund managers) are mainly denominated in Singapore Dollar, which is the Authority's functional currency.

Placement with the Accountant-General's Department comprise:

- \$246,350,972 (2018: \$88,475,145) which is centrally managed by the Accountant-General's Department under the CLMF, as set out in the Accountant-General's Circular No. 4/2009 Centralised Liquidity Management for Statutory Boards and Ministries, and
- Industry funds of \$489,257,187 (2018: \$522,467,770) which is placed under the SBAF and is subject to restrictions.

As at the balance sheet date, cash and cash equivalents include the following managed by fund managers:

	2019 \$	2018 \$
Cash at bank and on hand	28,814,667	92,044,433
Short-term bills and notes	97,318,150	77,088,373
Fixed deposits	-	1,051,690
	126,132,817	170,184,496

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11. Cash and cash equivalents (continued)

The effective interest rates of fixed deposits with the Accountant-General's Department under the CLMF vary from 1.86% to 2.13% (2018: 1.22% to 1.89%) per annum ("p.a."). The maturity of CLM fixed deposits are from 1 day to 1.5 years (2018: from 1 day to 1.5 years). It is highly liquid that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value.

The effective interest rates of cash and cash equivalents managed by fund managers are as follows:

	2019 % p.a.	2018 % p.a.
Commercial paper	(0.94) to (0.83)	1.85 to 3.14
Short-term bills and notes	(0.37) to 2.07	(0.95) to 2.40
Fixed deposits	-	1.82

12. Establishment account

The establishment account comprises the net book value of assets transferred to the Authority from the former National Maritime Board, the Marine Department and the regulatory departments of the Port of Singapore Authority.

Capital management

The Authority defines "capital" to include establishment account and reserves. The Board's policy is to maintain a strong capital base to safeguard the ability to meet the long-term development needs of the Authority. The Board of Directors monitors the "Operating Surplus" and "Net Other Operating Surplus/(Deficit)" on a regular basis. The Board monitors the major capital expenditure which is strategic in nature and may draw on reserves.

There were no changes in the capital management approach during the year.

The Authority is not subject to externally imposed capital requirements.

13. Equity financing account

The Equity financing account refers to equity injections by the Minister for Finance ("MOF") in its capacity as shareholder under the Capital Management Framework for statutory boards, implemented with effect from 1 September 2004.

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14. Employment benefits

	2019 \$	2018 \$
Beginning of financial year	422,377	422,377
Provision made	16,215	11,408
Provision utilised	(16,215)	(11,408)
End of financial year	422,377	422,377

The Authority operates an unfunded employment benefit plan for a limited pool of employees under the provisions of the Pensions Act (Cap. 225). Benefits are payable based on the last drawn salary of the employees and the number of years of service with the Authority.

15. Deferred capital grant

	2019 \$	2018 \$
Beginning of financial year	17,665,353	19,114,704
Amortisation to income	(1,261,950)	(1,449,351)
End of financial year	16,403,403	17,665,353

The above represents the unamortised portion of Government grant received in connection with specific property, plant and equipment acquired by the Authority.

16. Lease liabilities

	2019 \$
Maturity Analysis:	
Year 1	2,388,309
Year 2	844,038
Year 3	803,370
Year 4	336,319
Year 5	116,793
Year 6 onwards	128,919
	4,617,748
Less: Unearned interest	(219,299)
	4,398,449
Analysed as:	
Current	2,282,953
Non-current	2,115,496
	4,398,449

The Authority does not face significant liquidity risk with regard to its lease liabilities. Lease liabilities are monitored within the Authority's accounting function.

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17. Trade and other payables

	2019 \$	2018 \$
Trade payables	5,376,784	4,424,411
Payables on purchase of financial instruments	1,344,019	49,273
Accrued capital expenditure	11,086,417	6,480,697
Accrued operating expenses	25,062,315	25,371,770
Other payables	4,703,891	4,606,328
	<u>47,573,426</u>	<u>40,932,479</u>

Trade payables are mainly denominated in Singapore Dollar, which is the Authority's functional currency. Payables on purchase of financial instruments, managed by fund managers, are mainly denominated in Singapore Dollar.

Accrued operating expenses include accrual for performance bonus and group bonus of \$12,138,694 (2018: \$11,912,100) and accrued administrative fee payable to the fund managers and custodian bank amounting to \$708,056 (2018: \$797,577).

The following are the expected contractual undiscounted cash outflows of the financial liabilities, including interest payments and excluding the impact of netting agreements:

	2019 \$	2018 \$
Undiscounted cash flows within 1 year		
Non-derivative financial liabilities		
Trade and other payables	<u>(46,229,407)</u>	<u>(40,883,206)</u>

18. Advances, deposits and unearned income

	2019 \$	2018 \$
Advances and deposits	5,638,393	5,147,743
Unearned operating lease income [Note (a)]	6,180,614	4,481,025
Unearned annual port dues and Maritime Welfare Fee [Note (b)]	1,419,097	1,606,099
	<u>13,238,104</u>	<u>11,234,867</u>

(a) Unearned operating lease income mainly relates to sub-lease of properties to third party for a period of 7 to 8 years (2018: 9 years), of which payments were received in advance.

(b) Unearned annual port dues and Maritime Welfare Fee relate to specific customers under annual and 6-months port dues schemes, and the advance payments of Maritime Welfare Fee. These customers, whose ships that call frequently at the port are allowed to pay port dues on an annual or 6-months basis in advance instead of on a per-call basis.

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For the financial year ended 31 December 2019

18. Advances, deposits and unearned income (continued)

Deposits due within 1 year approximate their carrying amount of \$5,351,014 (2018: \$5,034,071).

19. Operating revenue

	2019 \$	2018 \$
Timing of revenue recognition		
<u>SB-FRS 115 revenue</u>		
Over time		
- Dues, licence & permit fees, and agency fee	191,963,003	184,100,188
- Annual Administrative Fee	1,163,948	1,216,149
- Training	540,669	807,347
At a point in time		
- Other marine services	91,259,206	97,617,543
- Shipping services	5,409,171	4,972,227
<u>Non SB-FRS 115 revenue</u>		
- Rental income	4,354,813	4,380,075
- Miscellaneous revenue	766,740	377,851
	<u>295,457,550</u>	<u>293,471,380</u>

20. Staff cost

	2019 \$	2018 \$
Wages and salaries	71,195,703	72,916,207
Employer's contribution to Central Provident Fund	9,865,287	9,845,878
Employer's contribution to other defined benefit plans (Note 14)	16,215	11,408
Other benefits	5,529,688	5,596,109
	<u>86,606,893</u>	<u>88,369,602</u>

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21. Other operating expenses

Included in other operating expenses are the following:

	2019 \$	2018 \$
Project grants	13,356,997	15,514,791
Contribution to Maritime Cluster Fund projects	13,782,559	17,695,787
Contribution to International Organisations	4,990,721	3,948,750
Transport & travel	2,164,066	1,937,321
Rental	2,579,234	3,192,939
Property tax	1,443,810	1,211,197
Telecommunication	2,516,089	2,313,999
Water cost & water sales service fee	1,397,363	1,186,132
Utility charges	1,140,327	1,020,128
Events & publicity	8,033,200	6,772,995
Professional & consultancy fees	9,333,641	9,333,177
Interest on lease liabilities	181,992	-
Other administrative expenses	8,903,250	7,520,835
Other miscellaneous expenses	1,216,465	2,126,526
	71,039,714	73,774,577

22. Net other operating surplus/(deficit)

	2019 \$	2018 \$
Investment gain/(loss) - net		
Dividend income	4,610,797	4,981,248
Interest income	11,476,186	9,946,030
Fair value gain/(loss) on investment - realised	17,464,352	(2,382,240)
Fair value gain/(loss) on investment - unrealised	42,713,179	(28,076,552)
Loss on foreign exchange - net	(2,121,694)	(4,929,643)
Other investment expenses	(3,318,810)	(4,152,459)
Investment gain/(loss) from funds with fund managers - net	70,824,010	(24,613,616)
Other operating surplus - net		
Interest income	3,691,038	2,201,017
Gain/(Loss) on foreign exchange - net	83,979	(159,937)
Loss on disposal of property, plant and equipment - net	(198,228)	(557,394)
Others - net	124,928	11,115
Other operating surplus - net	3,701,717	1,494,801
	74,525,727	(23,118,815)

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23. Contribution to Consolidated Fund

The contribution to the Consolidated Fund is made in accordance with Section 3(a) of the Statutory Corporations (Contributions to Consolidated Fund) Act (Cap. 319A). The contribution is based on 17% (2018: 17%) of the surplus for the year.

	2019 \$	2018 \$
Beginning of financial year	10,683,274	24,159,334
Amount contributed	-	(24,159,334)
Provision for the year	27,676,304	10,683,274
End of financial year	38,359,578	10,683,274

24. Financial Derivatives at Fair Value

The Authority places its surplus funds with fund managers to manage its investment portfolio under a balanced mandate. These fund managers are given discretion in managing their portfolio, subject to the investment guidelines set out in the fund management agreements.

As part of risk management activities, the fund managers use financial derivatives for hedging purposes. The financial derivatives used include financial futures, swaps and forward foreign exchange contracts.

As at balance sheet date, the notional amounts of the financial derivatives held by the fund managers are as follows:

	2019 \$	2018 \$
Notional amounts		
Futures contracts		
- Gross inflow	54,241,809	12,959
- Gross outflow	(28,534,846)	(11,041,609)
Foreign currency swap and forward contracts		
- Gross inflow	772,627,082	911,266,560
- Gross outflow	(772,637,082)	(911,266,560)

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

25. Commitments

(a) Capital commitments

Capital expenditures contracted for at the balance sheet date but not recognised in the financial statements are as follows:

	2019 \$	2018 \$
Property, plant and equipment	<u>10,526,542</u>	<u>12,957,913</u>

(b) Operating lease commitments - Where the Authority is a lessee:

As at 31 December 2019, the Authority is committed to \$2,764,525 for short-term leases.

As at 31 December 2018, the future minimum lease payables under non-cancellable operating leases contracted for but not recognised as liabilities, are as follows:

	2018 \$
Maturity Analysis:	
Not later than one year	13,829,459
Between one and five years	<u>3,350,808</u>
Total	<u>17,180,267</u>

(c) Operating lease commitments - Where the Authority is a lessor:

Operating leases, in which the Authority is the lessor, relates to rental space and buildings owned by the Authority with lease terms of between 2 years to 30 years. The lessee does not have the option to purchase the property at the expiry of the lease period.

Maturity analysis of operating lease payments:

	2019 \$
Maturity Analysis:	
Year 1	2,483,730
Year 2	1,790,788
Year 3	1,324,848
Year 4	940,716
Year 5	940,716
Year 6 onwards	<u>1,862,536</u>
Total	<u>9,343,334</u>

During the year ended 31 December 2019, the Authority recognised \$3,558,017 (2018: \$3,150,865) of rental income from non-cancellable operating leases.

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

25. Commitments (continued)

(c) Operating lease commitments - Where the Authority is a lessor (continued)

As at 31 December 2018, the future minimum lease receivables under non-cancellable operating leases contracted for at the balance sheet date but not recognised as receivables, are as follows:

	2018 \$
Maturity Analysis:	
Not later than one year	2,387,619
Between one and five years	<u>3,005,674</u>
Later than five years	<u>2,054,581</u>
	<u>7,447,874</u>

26. Financial risk management

Financial risk factors

The Authority's activities expose it to market risk (including currency risk, interest rate risk and price risk), credit risk and liquidity risk.

Risk management is integral to the whole operations of the Authority. The Authority has a system of controls in place to create an acceptable balance between the cost of risks occurring and the cost of managing the risks. The management continually monitors the Authority's risk management process to ensure that an appropriate balance between risk and control is achieved.

Funds with fund managers

In connection with the funds placed with fund managers, the funds placed with fund managers are exposed to a variety of financial risk: credit risk, liquidity risk and market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk).

The fund managers appointed under the balanced mandate are held responsible in achieving the investment objectives set forth in their respective fund manager agreements entered with the Authority. All income and realised capital gains are to be reinvested by the fund managers unless otherwise instructed by the Authority.

The fund managers' overall risk management programme seeks to maximise the returns derived for the level of risk to which they are exposed and seeks to minimise the potential adverse effects on the fund managers' financial performance.

A significant proportion of the Authority's security investments present a risk of loss of capital. The maximum loss of capital is represented by the carrying values of those security investments.

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

26. Financial risk management (continued)

Funds with fund managers (continued)

The management of these risks carried out by the fund managers is governed by the mandate set forth in the fund manager agreements approved by the Investment Committee of the Authority. The mandate provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, credit risk, the use of derivative and non-derivative financial instruments.

(a) Market risk

(i) Currency risk

The Authority invests in financial instruments and enters into transactions denominated in currencies other than its functional currency. Consequently, the Authority is exposed to risks that the exchange rate of its functional currency relative to other foreign currencies may change in a manner that has an adverse effect on the value of that portion of the Authority's assets or liabilities denominated in currencies other than the functional currency.

The financial assets managed by fund managers denominated in currencies other than the Authority's functional currency comprise the following:

	2019 \$	2018 \$
British pound sterling	30,876,757	21,530,239
Canadian dollar	41,765,234	31,323,750
Euro	55,271,613	47,112,279
Japanese yen	31,463,660	19,219,828
Swiss franc	9,953,086	18,403,512
United States dollar	441,287,377	337,633,496
Various other foreign currencies	49,376,128	63,818,439
	<u>659,993,855</u>	<u>539,041,543</u>

At the balance sheet date, if there is a +/-5% movement in exchange rates relative to the Singapore Dollar, with all other variables held constant, the increase/(decrease) in the fair value of financial assets in income or expenditure would be as follows:

	2019 \$	2018 \$
+5% scenario		
Income or expenditure	<u>32,999,693</u>	<u>26,952,077</u>
-5% scenario		
Income or expenditure	<u>(32,999,693)</u>	<u>(26,952,077)</u>

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

26. Financial risk management (continued)

(b) Market risk (continued)

(ii) Interest rate risk

Interest rate risk arises from the effects of fluctuations in the prevailing levels of market interest rates on the fair value of financial assets and liabilities and future cash flows. The Authority holds debt securities and derivatives that expose the Authority to fair value interest rate risk.

FVTPL debt securities, managed by fund managers

At the balance sheet date, assuming that all other variables are held constant and no loss event has occurred, a 100 basis point increase/(decrease) in the interest rate would (decrease)/increase the fair values of the financial assets in income or expenditure by the following amounts:

	2019 \$	2018 \$
+100 basis point scenario		
Income or expenditure	<u>(18,023,549)</u>	<u>(18,295,325)</u>
-100 basis point scenario		
Income or expenditure	<u>18,023,549</u>	<u>20,453,593</u>

At the balance sheet date, assuming that all other variables are held constant, a 100 basis point increase/(decrease) in interest rate would increase/(decrease) the interest income of the floating rate debt securities recorded in income or expenditure by the following amounts:

	2019 \$	2018 \$
+100 basis point scenario		
Income or expenditure	<u>18,000</u>	<u>166,256</u>
-100 basis point scenario		
Income or expenditure	<u>(18,000)</u>	<u>(166,256)</u>

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

26. Financial risk management (continued)

(ii) Interest rate risk (continued)

Derivatives (futures), managed by fund managers

At the balance sheet date, if interest rates had been 100 basis point higher/(lower) with all other variables held constant, the increase/(decrease) in the fair values of the interest rate derivatives in the income or expenditure would be as follows:

	2019 \$	2018 \$
+100 basis point scenario		
Income or expenditure	<u>52,690</u>	<u>777,463</u>
-100 basis point scenario		
Income or expenditure	<u>(52,690)</u>	<u>(819,675)</u>

The effective interest rates at balance sheet date of the debt securities held by the fund managers and the period in which they mature or reprice are as follows:

	2019 \$	2018 \$
Fixed rate		
Maturing in less than 1 year	10,796,661	35,747,047
Maturing between 1 to 5 years	181,389,833	127,972,481
Maturing in more than 5 years	163,308,809	176,318,612
Floating rate		
Repricing in less than 3 months	30,804,787	37,971,016
Repricing in more than 6 months	11,163,136	-
	<u>397,463,226</u>	<u>378,009,156</u>

(iii) Equity price risk

The Authority is exposed to equity price risk. This arises from investments held by the Authority for which prices in the future are uncertain. Where equity securities are denominated in currencies other than the functional currency of the Authority, the price initially expressed in foreign currency and then converted into the functional currency will also fluctuate because of changes in foreign exchange rates. Paragraph (a)(i) "Currency risk" sets out how this component of price risk is managed and measured.

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

26. Financial risk management (continued)

(iii) Equity price risk (continued)

The Authority's policy to manage price risk is via diversification and selection of securities and other financial instruments within specified limits set by the Investment Committee. The majority of the Authority's equity investments is publicly traded. The overall market position of these equity investments is monitored on a daily basis by the fund managers and is reviewed on a quarterly basis by the members of the Investment Committee. Compliance with the Authority's fund management mandate is reported to the members of the Investment Committee on a quarterly basis.

(iv) Price risk

At the balance sheet date, assuming that all other variables are held constant, a 5% increase/(decrease) in the underlying equity prices would increase/(decrease) the Authority's net surplus for the year by the following amounts:

	2019 \$	2018 \$
+5% scenario		
Equity securities, managed by fund managers		
Income or expenditure	<u>10,870,230</u>	<u>7,209,550</u>
-5% scenario		
Equity securities, managed by fund managers		
Income or expenditure	<u>(10,870,230)</u>	<u>(7,209,550)</u>

NOTES TO THE FINANCIAL STATEMENTS
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26. Financial risk management (continued)

(b) Credit risk

The Authority's current credit risk grading framework comprises the following categories:

Category	Description	Basis for recognising expected credit losses (ECL)
Performing	The counterparty has a low risk of default and does not have any past-due amounts.	12-month ECL
Doubtful	Amount is >30 days past due or there has been a significant increase in credit risk since initial recognition.	Lifetime ECL - not credit-impaired
In default	Amount is >90 days past due or there is evidence indicating the asset is credit-impaired.	Lifetime ECL - credit-impaired
Write-off	There is evidence indicating that the debtor is in severe financial difficulty and the Authority has no realistic prospect of recovery.	Amount is written off

The table below details the credit quality of the Authority's financial assets as well as maximum exposure to credit risk by credit risk rating grades:

	Note	Internal credit rating	12-month or lifetime ECL	Gross carrying amount \$	Loss allowance \$	Net carrying amount \$
2019 Trade receivable	9	(i)	Lifetime ECL (simplified approach)	50,300,945	85,424	50,215,521
Other receivables	10	Performing	12-month ECL	14,725,861	-	14,725,861
					85,424	

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

26. Financial risk management (continued)

(b) Credit risk (continued)

	Note	Internal credit rating	12-month or lifetime ECL	Gross carrying amount \$	Loss allowance \$	Net carrying amount \$
2018 Trade receivable	9	(i)	Lifetime ECL (simplified approach)	45,370,833	33,816	45,337,017
Other receivables	10	Performing	12-month ECL	14,596,722	-	14,596,722
					33,816	

- (i) The Authority determines the expected credit losses on these items by using a provision matrix, estimated based on historical credit loss experience based on the past due status of the debtors, adjusted as appropriate to reflect current conditions and estimates of future economic conditions.

The Authority has adopted procedures in extending credit terms to customers and in monitoring its credit risk. The Authority only grants credit to creditworthy counterparties. Cash is held with creditworthy institutions and is subject to immaterial credit loss.

Although the Authority's credit exposure is concentrated mainly in Singapore, it has no significant concentration of credit risk with any single customer or group of customers.

Funds with fund managers

Credit risk is the risk that a counterparty to a financial instrument will fail to discharge an obligation or commitment that it has entered into with the Authority. The fund manager has a credit policy in place and the exposure to credit risk is monitored on an on-going basis.

As at 31 December 2019, the following financial assets were exposed to credit risk: investment in equity and debt securities, receivables on sale of financial instruments, forward foreign exchange purchases, cash and cash equivalents, derivative financial assets and other receivables. The total carrying amount of financial assets exposed to credit risk amounted to \$746,644,066 (2018: \$719,962,717).

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For the financial year ended 31 December 2019

26. Financial risk management (continued)

(b) Credit risk (continued)

The Authority limits its credit risk exposure in respect of investments in debt securities by restricting the fund managers to invest in debt securities that have a sound credit rating from Standard & Poor's and Moody's (at least BBB by the former or Baa2 by the latter, on the lower rating of both in the event of split ratings). Given these credit ratings, management does not expect any counterparty to fail to meet its obligations.

The maximum exposure to credit risk is represented by the carrying amount of each financial asset on the consolidated balance sheet.

(c) Liquidity risk

The Authority monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Authority's operations and to mitigate the effects of fluctuations in cash flows.

Funds with fund managers

The Authority's listed debt and equity securities are considered readily realisable, as they are listed on the major stock exchanges. The fund managers are required to comply with the restrictions and limitations as stipulated in the investment mandate. All transactions carried out by the fund managers are settled daily through the Authority's custodian of the portfolio of investments placed by fund managers.

The fund managers may periodically invest in some debt securities and derivative contracts on behalf of the Authority that are traded over the counter, which are not traded in an organised market and may be illiquid. As a result, the Authority may not be able to liquidate its investments in these instruments at an amount close to their fair value to meet its liquidity requirements or be able to respond to specific events such as the deterioration in the creditworthiness of any particular issuer.

At the balance sheet date, non-derivative financial liabilities held by the Authority are as disclosed in Note 17.

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

26. Financial risk management (continued)

(d) Fair value measurements

The following presents assets and liabilities measured and carried at fair value and classified by level of the following fair value measurement hierarchy:

- (a) quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1);
- (b) inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices) (Level 2); and
- (c) inputs for the asset or liability that are not based on observable market data (unobservable inputs) (Level 3).

The fair value of financial instruments traded in active markets (the Authority's equity and debt securities managed by fund managers) is based on quoted market prices at the balance sheet date. The quoted market price used for financial assets held by the Authority is the current bid price. These instruments are classified as Level 1.

Derivatives used by fund managers

Futures contracts are marked to market daily using listed market prices with any gains or losses posted to the related variation margin accounts.

The fair value of forward exchange contracts is based on their listed market price and the fair value of swaps is based on quotations from independent third party vendors and sources that apply fair value techniques. These instruments are classified as Level 2.

(e) Financial instruments by category

The carrying amounts of financial assets measured at fair value are disclosed on the face of the balance sheet. The carrying amounts of financial instruments at amortised cost approximate their fair values.

The aggregate carrying amounts of loans and receivables and financial liabilities at amortised cost are as follows:

	2019 \$	2018 \$
Loans and receivables	930,963,097	847,712,744
Financial liabilities at amortised cost	57,610,268	46,080,222

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27. Related party transactions

In addition to the information disclosed elsewhere in the financial statements, the following transactions took place between the Authority and related parties at terms agreed between the parties.

(a) Sales of services

	2019 \$	2018 \$
Provision of dumping and monitoring services to Statutory Boards	32,271,997	37,971,540
Provision of agency and project management services to Ministry	16,270,728	23,905,136
Provision of private wharfage services to Statutory Board	3,640,778	4,261,053

(b) Key management personnel compensation

Key management personnel of the Authority are those persons having the authority and responsibility for planning, directing and controlling the activities of the Authority. These key management personnel comprise the Board of Members and Executive Management Team of the Authority.

Key management personnel compensation is as follows:

	2019 \$	2018 \$
Salary and short-term employee benefits	5,454,311	5,929,503
CPF contributions	285,767	277,742
Directors' fees	205,542	194,075
	5,945,620	6,401,320

28. Funds managed/held on behalf of others - Funds held in trust

Funds held in trust and managed by the Authority comprise the following:

	2019 \$	2018 \$
Singapore Stranded Seafarers' Fund	340,627	339,539
Agency funds held in trust of Ministry of Transport	6,751,976	3,357,083
	7,092,603	3,696,622

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For the financial year ended 31 December 2019

28. Funds managed/held on behalf of others - Funds held in trust (continued)

Singapore Stranded Seafarers' Fund ("SSSF")

- (a) The SSSF was set up in September 1999 (following the Authority's Board approval for its creation at an earlier board meeting in July 1999). The SSSF is managed by a Committee made up of representatives from the Authority and the unions, namely Singapore Maritime Officers' Union and Singapore Organisation of Seamen.

The Fund is humanitarian in nature. It shall be used only as a last resort when it becomes evidently clear that the ship owners concerned are no longer able to bear responsibility towards their ship crew, e.g. due to insolvency. It is used mainly to buy fuel (i.e. to run the ship's generators) and provide food and portable water to sustain the stranded ship crew onboard Singapore-registered ships stranded in Singapore or overseas, until such time they are repatriated or the dispute is settled.

- (b) The assets and liabilities of the SSSF as at 31 December are as follows:

	2019 \$	2018 \$
Accumulated fund	340,627	339,539
Current assets		
Interest receivable	642	643
Cash and cash equivalents	339,985	338,896
	340,627	339,539

- (c) The results of the SSSF for the year ended 31 December are as follows:

	2019 \$	2018 \$
Interest income	1,088	1,089
Surplus for the year	1,088	1,089
Accumulated fund as at 1 January	339,539	338,450
Accumulated fund as at 31 December	340,627	339,539

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28. Funds managed/held on behalf of others - Funds held in trust (continued)

Agency funds held in trust of Ministry of Transport

- (a) On 11 March 2005, the Authority was appointed by Ministry of Transport ("MOT") as its managing agent in connection with the proposed land reclamation at Pasir Panjang Terminal Phases 3 and 4 and Tuas Port.

- (b) The assets and liabilities of the agency funds held in trust as at 31 December are as follows:

	2019 \$	2018 \$
Accumulated fund	6,751,976	3,357,083
Current assets		
Cash at bank	7,078,041	2,057,060
Amount due from various Government bodies	57	7
GST receivable	12,056,063	12,271,249
	19,134,161	14,328,316
Current liabilities		
GST payable	(12,324,417)	(10,945,976)
Amount due to various Government bodies	(57,766)	(25,257)
Other payable	(2)	-
Net assets	6,751,976	3,357,083

- (c) The results of the agency funds held in trust for the year ended 31 December are as follows:

	2019 \$	2018 \$
Grants received	965,616,376	823,981,979
Interest income	792,947	245,662
	966,409,323	824,227,641
Grants disbursed	(947,212,898)	(826,109,527)
Agency fees paid/payable	(15,801,532)	(23,449,093)
Surplus/(Deficit) for the year	3,394,893	(25,330,979)
Accumulated fund as at 1 January	3,357,083	28,688,062
Accumulated fund as at 31 December	6,751,976	3,357,083

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 December 2019

28. Event after the reporting period

Subsequent to the end of the financial year, and as at the date these financial statements are authorised for issue, the value of investment portfolio managed by fund managers has reduced by 3% largely from unrealised losses amidst the global stock market sell-off triggered by market uncertainty from the global spread of COVID-19 (Coronavirus Disease 2019)."

29. Authorisation of financial statements

These financial statements were authorised for issue by the Board of Members on 29 March 2020.



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