CONSTRUCTING A RESILIENT PORT OF THE FUTURE
SINGAPORE’s NEXT GENERATION PORT

The World’s Single Largest Container Port
The operating environment ahead for the maritime industry will be defined by three trends - Digitalisation, Disruption and Decarbonisation. In the face of unprecedented change today, we must transform our business models and focus on our collective commitment to sustainability. Our Next-Generation Port at Tuas will provide opportunities to rise to the challenges and position us well for the future.

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Executive Summary

Constructing a Resilient Port of the Future, Singapore’s Next Generation Port

Tuas Port, when fully developed in four phases, will be the world’s single largest container port capable of handling up to 65 million TEUs annually. From planning to implementation, Tuas Port will be a resilient port. It provides a single consolidated location for Singapore’s container activities, which significantly reduces inter-terminal haulage operations and GHG emissions. Finger-piers with caisson quay wall were adopted to maximise limited land and sea space while creating 115 hectares more land. Coupled with long linear berths and design depth of -23m at Chart Datum, it can accommodate mega container ships exceeding 450m in length. Above Ground Space will also be introduced, adding 240ha of space for port-related uses.

Sustainability is integral to the construction of Tuas Port. To adapt to rising sea levels, Tuas Port will have an operational platform of 5m above MSL. More than 50% of the total fill materials for Phases 1 and 2 are dredged material and excavated earth from construction projects. Reusing such materials, reduces the reliance on sand for reclamation and saves more than S$2 billion in fill material costs.

To protect marine habitats and sensitive commercial water intakes, environmental impact assessments were conducted to establish strict Environmental Quality Objectives for compliance during the reclamation works. A S$6 million programme was implemented to relocate impacted corals together with nature volunteers and non-governmental organisations, and the relocated corals survival rate was 80%.

Beyond the physical port, Tuas Port will be a digital and automated port. Digital innovations such as Digitalport@SG and Just-in-Time System will streamline vessel clearance processes, enable just-in-time operations and improve the turnaround time of ships in the port. Automated and electrified port equipment will improve productivity. Together with the Maritime Singapore Green Initiative, Tuas Port is well positioned to be the resilient port of the future.
SINGAPORE’s NEXT GENERATION PORT

**PHYSICAL**
- **115 hectares** more land created using caisson structure system
- **Resilient** against rising sea-levels up to Year 2100
- **26.3 km linear berths** catering to all ship sizes
- **Additional 240 hectares** from Above Ground Space
- **S$2 billion savings** through large-scale use of alternative reclamation material

**ENVIRONMENTAL**
- **80% survival rate** of relocated corals
- **S$100 million committed** over a 5 years period to support Maritime Singapore’s Green Initiatives
- **Reduction of green house gases** ~ 65 million TEUs in one location

**DIGITAL**
- **100,000 man-hours saved** through digital optimisation
- **Largest automated** port in the world
**Introduction of Tuas Port**

Singapore is a premier global hub port connected to 600 ports in over 120 countries, giving users reliable, value-added, and cost efficient marine services and facilities. Being the busiest port in the world in terms of shipping tonnage, with more than 130,000 vessel calls annually, Singapore is not only a vibrant marketplace comprising international shipping groups, commodity traders, logistics players and maritime service providers; it is also a key gateway to access business opportunities in the Asia-Pacific region. Singapore’s Next Generation at Port at Tuas, Tuas Port, is a testament to Singapore’s commitment to sustaining its lead as a global hub port, and it represents our confidence in Singapore’s maritime future.

The construction of Tuas Port spans four phases over 30 years. When fully developed in 2040s, it is slated to become the world’s largest container terminal located in a single location, capable of handling up to 65 million twenty-foot equivalent units (TEUs) per annum, more than double the current handling capacity. It not only caters for future growth in container handling demand, but also accommodates the move of the city terminals to Tuas when their leases expire, thereby consolidating all the existing container handling facilities in one location. Work on the Tuas Port started in 2015 and is well in progress.

Click link to view video on Singapore’s Next Generation Port at Tuas
http://www.youtube.com/watch?v=GIgR15k8q8
Tuas Port Ecosystem

Building the world’s largest container port that ticks efficiently 24-hours daily will not be complete without the co-existence of an ecosystem with the complementary supply chain development such as, warehousing, container depots and factories to aid the efficient flow of cargoes between the port and industries. To facilitate the creation of the Tuas Ecosystem, high growth trade generative industries that can leverage on being in close proximity to Tuas Port have been identified and planned to be located near to Tuas Port.
Planning and Building a Sustainable Port

Single Container Port

Consolidating all the container terminals in a single location will eliminate inter terminal haulage for better operation efficiency and reduce container traffic on public roads. Moreover, Tuas Port is in close proximity to the Jurong and Tuas industrial areas, translating into shorter haulage of import and export containers to and from Tuas Port and reduction in greenhouse gas emission. It will also free up valuable land in the city areas for higher value uses, such as commercial and residential. See Figure 1.

Maximising Use of Land and Sea Space

Adopting a Finger-pier Configuration and Above Ground Space

Singapore has limited land and sea space and there are many competing demands for foreshore land and sea space such as port, shipyards, oil and chemical terminals, cruise passenger terminals, recreational uses among others.

Tuas Port will be constructed on reclaimed land, which puts further pressure on the limited sea space. To maximize the use of limited land and sea space, while ensuring navigational safety and adequacy of anchorage capacity, MPA with inputs from the port operator (PSA) and other government agencies adopted a finger-pier configuration that will be capable of handling up to 65 million TEUs a year; validated by simulation models (see Figure 2 and Figure 3).
The handling capacity of 65 million TEUs will be sufficient for Singapore to anchor key shipping alliances and its feeder networks, and for Singapore to be a world-leading International Maritime Centre as well as to sustain our Hub Port leadership.

To further intensify land use within the Port, Phase 2 has been future proofed for the development of an additional 240ha of Above Ground Space for industrial and other uses that are synergistic to port operations. See Figure 4. A future Utility Services Master Plan, which includes the option of a Common Services Tunnel, will also be put in place to ensure that conflict points and impact to road users and adjacent operations will be minimised when future services are being laid.

**Meeting Future Ship Sizes**

Tuas Port is designed to meet future ship sizes. Based on historical trends, ship sizes and size distributions have changed significantly during the past few years. It will continue to change as the number of large ships and their sizes are anticipated to increase continuously. The size of container ships and its distributions that are anticipated to call at Tuas Port are key planning parameters ensuring that the port is planned adequately to accommodate the largest container ship in the long term.

Tuas Port will have long linear berths, adequate turning basins, and designed depth of minus 23m at Chart Datum. This design, validated using simulation studies, allows maximum flexibility to accommodate largest container ship in the world of 450m in length or longer.
Use of Caisson for Port construction

During the planning of Tuas Port, a comparison study was carried out to evaluate the cost-benefits of a piled deck structure and a caisson quay wall system. After comparisons among the engineering aspects, overall construction cost as well as schedule for completion between the schemes, it was concluded that the scheme adopting the caisson quay wall system with concrete box caissons and land behind it is more cost effective than the piled deck structure. Figure 6 and Figure 5 shows the cross sections of pile-deck and typical caisson berths. The polder system was also evaluated but it requires further assessment taking into account that the current cost of construction is prohibitive. Hence, Tuas Port was designed based on the concept of caisson quay wall system.

The concrete box caissons were designed to cater to the varying seabed depths to retain the fill materials behind it, as well as future quay walls to resist lateral forces exerted by berthing of vessels. In addition, the concrete box caissons have to be designed such that it could also withstand the stresses due to different loadings arising from the various construction stages such as, transportation by means of floating, installation along the wharf edge or quay wall line, and preloading by surcharge during construction. It is...
also designed to allow for maximum flexibility in the deployment of quay cranes capable of handling the ultra large container vessels. Figure 7 shows a typical caisson weighing up to 15,000 tons with a height of a 10-storey HDB building in Singapore.

The use of caisson structure as the retaining wall for the fill materials will also serve as the container wharves for berthing of container vessels when the berths are operational. In addition, more land can be created as compared to the use of conventional pile-deck berths; some 115 hectares more land for Tuas Port Phases 1 and 2.

**Green Efforts – Adapting to rising sea levels**

Singapore is a low-lying island and is especially vulnerable to rising sea levels. To ensure that Tuas Port is designed and built to meet the challenges of rising sea levels, the Maritime and Port of Singapore Authority (MPA) together with other government agencies have been actively involved in a Coastal Adaptation Study to understand and adapt to the effects of rising seas. Figure 8 illustrates the identified flood prone areas.

Tuas Port will have an operational platform level of 5m above Mean Sea Level (MSL) to be resilient against rising sea levels up to Year 2100 based on the Study. This adaptation to climate change was reinforced by Singapore’s Prime Minister Lee Hsien Loong during his National Day Rally 2019 speech, in which he reiterated the importance of adapting to climate change – particularly on rising sea levels, and that Singapore will spend $100 billion to do so.

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1 Figure extracted from Singapore’s Prime Minister Lee Hsien Loong’s National Day Rally 2019, CNA’s broadcast.
Sustainable Construction of Tuas Port

Conventionally, marine sand is used for reclamation projects. To reduce reliance on sand and ensure a more sustainable development, MPA looked into the use of alternative reclamation fill materials namely; dredged materials from deepening of basins and fairways, and excavated earth from land construction projects like rail tunnelling and underground station works. MPA concluded that large-scale use of alternative materials was feasible though there could be some technical challenges, which could be addressed in the reclamation design and project management.

To ensure that the reclamation schedule could be met, and to maximise the reuse of dredged marine clay, the rate at which clay is to be filled within the reclamation site is first derived. It is then checked against the expected dredging volume that would be generated daily based on the dredgers and marine equipment that would be deployed. Maximizing the use of dredged clay is only feasible when the rate of marine clay supply can meet the required filling rate to reclaim the land.

In addition to the reuse of dredged materials generated from the reclamation projects, MPA also worked with the government agencies, which have many construction projects generating large amount of land-based excavated earth such as tunnel works for mass rapid transit and major underground road projects, to secure such earth as reclamation fill. The appointed contractors for the Tuas Port Phases 1 and 2 reclamation projects were also encouraged to source for excavated earth from private construction projects.
Another challenge is that these recycled materials are generally soft, and they pose engineering challenges. The land filling work sequence has to be properly implemented to ensure that the designed sequence is followed strictly so as to maximize the reuse of alternative fill materials. See Figure 9 on where the dredged marine clay and excavated earth are placed to create the land.

As these recycled materials are soft clayey soils, which have high water content, large ground settlement is expected. In addition, the existing seabed material where the land is being reclaimed is also soft. Soil improvement using pre-fabricated vertical drains with sand surcharge is adopted to improve the recycled fill materials and the existing soft clayey seabed materials to achieve better engineering properties to support the heavy loadings from the container terminal operations and the reclaimed land could be put into use immediately. If left untreated, it will take up to 50 years for the reclaimed land to settle naturally. Figure 11 shows the soil improvement processes and Figure 10 shows the equipment used to insert the Prefabricated Vertical Drains (PVDs).

Phases 1 and 2 of Tuas Port will use 70% and 50% of recycled materials out of the total fill materials required for each phase, respectively. The large-scale reuse of dredged and excavated materials reduces the reliance on sand as reclamation fill, which is limited in supply and often the supply is being disrupted, impacting the progress of the project. This build resilience and reduces the risk from sand supply disruption, providing more certainty to the project progress.
All dredged materials generated from the projects such as dredging of basins, fairway, and sandkey (foundation for caisson sea wall) as well as excavated earth from land construction projects will be reused as fill materials, which will otherwise need to be disposed of at approved dumping grounds. Reusing such materials reduces the need for dumping grounds at sea.

The large scale reuse of dredged and excavated resulted in fill materials cost savings of more than S$2 billion for both projects. Greater savings could be achieved as dredged and excavated materials will similarly be used as alternative fill materials for the next phases of Tuas Port construction as sustainable construction is an institutionalised commitment of MPA.

MPA SAVED > S$2 BILLION
THROUGH THE LARGE-SCALE USE OF ALTERNATIVE MATERIALS

Grab Dredger (GD)

GDs are used to dredge the seabed, which these materials will be used as reclamation fill.
Aerodynamic and Thermal Modelling

MPA recognises the need to foster a safer and greener terminal working condition (both indoors and outdoors) with good wind ventilation, better air quality and improved thermal comfort for both environmental and energy sustainability. Together with the Institute of High Performance Computing (IHPC) and Agency for Science, Technology and Research (A*STAR), an integrated aerodynamic and thermal model was developed to ensure that the design of the terminal is green with better working conditions.

It is an integrated microclimatic modelling framework that comprises both airflow simulation and solar irradiation simulation. This modelling tool aids in the study of wind flow and thermal comfort tailored for Tuas Port by considering key factors within and surrounding the port. These factors include climate change impact, buildings and land usage, seasonal weather conditions, surrounding coastal waters, and impact from neighbouring Jurong Island among others.
Protection of Marine Environment

MPA is fully committed to the protection of marine environment. Climate change has led to the rise in sea temperature, which has an adverse impact on the marine ecosystem such as bleaching of corals. In the reclamation for Tuas Port, MPA has put in place mitigating measures to protect the marine environment.

Environmental Impact Assessment (EIA)

Land for Tuas Port is being reclaimed within the Tuas Basin, which is surrounded by number of environmentally or economically critical features as well as coral reefs and marine eco-system. Corals around Sultan Shoal, the water quality within the Tuas Basin, and sensitive sea water intakes along western Jurong Island area are some of the key environmental receptors to be protected during the course of the reclamation works.

Prior to commencement of the reclamation works for Tuas Port, environmental impact assessments (EIA) were carried out by specialist consultant commissioned by MPA in 2012. It was to determine the impact of the marine construction activities on the surrounding marine enviornment as marine dredging and filling works will result in release of sediments, which may impact the environment taking into consideration the prolonged nature of the works. Also, recognizing the importance of marine habitats and sensitivity of surrounding commercial activities, strict Environmental Quality Objectives (EQO) for the marine construction activities were established for compliance by the project such as no impact on the marine intakes in the potential impact area, no impact to seagrass and mangrove among others.
Environmental Monitoring and Management Plan

To carry out the reclamation works within the above pre-defined and approved EQO’s within the reclamation period, the followings were established for the environment monitoring and management plan (EMMP), which was put in place during the reclamation works:

- Compliance assessment against spill budget targets at the work area on a daily basis;
- Real-time monitoring and compliance assessment against response limits for water intakes and reefs in close proximity to the work area; and
- Compliance assessment against results of daily hindcast modelling compared to habitat tolerance limits throughout the potential impact area.

The EMMP has been able to document compliance of the works to all pre-project Environmental Quality Objectives at a level of reliability that is robust. This will minimize MPA and contractor’s exposure to public complaints and liabilities associated with environmental impacts. In addition, it will allow the reclamation activities to proceed in an efficient manner, whilst ensuring protection of the environment.

Water quality surveys are carried out monthly to ensure compliance with ASEAN Marine Water Quality criteria. Some parameters monitored are dissolved oxygen, total suspended solids and nitrate.

Hindcast modelling to check compliance against spill budget at the work area on daily basis.

Water in areas surrounding the reclamation site is being monitored throughout the construction phase.

Sensors are deployed at strategic locations for current and turbidity monitoring and to ensure compliance with EQOs. The data from the sensors are transmitted to the Information Management System (IMS) real-time.
Coral Relocation

Singapore’s coral reefs are home to more than 250 species of corals and habitats for a great number of marine organisms. The EIA found that the development of the Tuas Port would affect the corals around Sultan Shoal and recommended that the affected corals be relocated to avoid the loss of marine biodiversity in Singapore waters, and building resilience.

In 2014, MPA set up a S$6 million programme to move 2,300 hard coral colonies from Sultan Shoal to the new Sisters’ Island Marine Park with participations from nature volunteers, non-governmental organisations (NGO) and the private sector. After the relocation, corals monitoring surveys were carried out and the results showed that the survival rate of these relocated corals was about 80%.

In addition, to save the 1,250-over coral fragments that broke off during the relocation, another programme was created together with the National University of Singapore called ‘Enhancing Singapore’s Coral Reef Ecosystem in a Green Port’ to grow these fragments in coral nurseries, and at the same time, assess the survivability, adaptability and evolution of the remaining corals off Tuas. The wall face of the caisson retaining structure where it will not be used for berthing of container vessels would also be constructed in a rough manner to promote coral growth. See Figure 14.

MPA also set up a Coral Relocation Volunteer Programme involving the NGOs such as the Nature Society of Singapore, Singapore Environment Council, WildSingapore and the Singapore Reef and Marine Conservation Committee. Collectively, these efforts have enabled the transplanted corals to flourish at their new homes.

Figure 14: Caissons with roughed surface to promote coral growth
Maritime Singapore Green Initiatives

As a responsible global hub port and international maritime centre, Singapore works with its stakeholders to promote sustainable shipping and green port activities. On the international front, Singapore is party to the International Maritime Organisation (IMO) conventions on ship safety and marine pollution prevention. As an active Council member of the IMO, Singapore is committed to supporting the work of the IMO to balance environmental protection and maritime safety with the need for safe, secure and efficient shipping.

MPA committed up to $100 million over a 5-year period to support its Maritime Singapore Green Initiative. The initiative comprises the Green Ship, Green Port and Green Technology programmes. Under these programmes, maritime companies enjoy incentives when they adopt clean and green shipping practices that exceed IMO conventions. Maritime companies also take the Maritime Singapore Green Pledge to indicate their commitment in promoting clean and sustainable shipping in Singapore. See Figure 15.

![Figure 15: Maritime Singapore Green Initiatives](image-url)
At the international stage, MPA is an active advocate for international environmental protection at various platforms such as UNFCCC and IMO. MPA also works in close partnership with the IMO secretariat to keep track of the progress of discussion related to international shipping (e.g. GHG emissions). By keeping abreast of the latest developments on the international front, MPA is able to better advise our domestic efforts back in Singapore, be it in terms of policies or regulations.

**LNG as the Cleaner Energy**

MPA has been encouraging the adoption of cleaner fuels and issues LNG Bunker supply licenses since 2016. The first LNG truck-loading facility was launched in April 2017. To date, MPA has subsidised the building of 7 LNG fuelled vessels and 2 LNG fuelled bunker vessels through the Green Energy Program under the Maritime Green Initiative. MPA is committing up to $100 million over a five-year period to support its Maritime Singapore Green Initiative. The Initiative comprises the Green Ship, Green Port and Green Technology programmes. Under these programmes, maritime companies enjoy incentives when they adopt clean and green shipping practices that exceed IMO conventions. Maritime companies also take the Maritime Singapore Green Pledge to indicate their commitment in promoting clean and sustainable shipping in Singapore.

Since its launch in 2011:
- Over 100 companies have signed the Maritime Singapore Green Pledge
- 267 Singapore-flagged ships have qualified for the Green Ship programme
- More than 3,000 vessels have enjoyed port dues concessions under the Green Port programme
- 17 companies and 61 Singapore-flagged ships have participated in the Green Technology programme

Maritime Singapore Green Initiative: A $100 Million Commitment to Green Shipping
Digital Optimisation & Automation

MPA has launched the NGP2030 initiative as a Whole-Of-Government effort to drive the overall master planning and development of Singapore’s port. This initiative reaffirms MPA’s commitment as a leading maritime agency to driving Singapore’s global maritime aspirations. Through a port system roadmap, MPA has initiated the development of several new digital initiatives to support and improve port operations and efficiency. These includes the DigitalPORT@SG, Singapore’s maritime single window system, and Just-In-Time (JIT) Planning and Coordination. This will enable ports users to operate more cost effectively as the number of manpower and time would reduce.

DigitalPORT@SG

DigitalPORT@SG, a digital Portal for One-stop Regulatory Transactions, is Singapore’s maritime single window system that will serve as a one-stop portal for maritime regulatory and port services transactions.
The system will be developed in two phases. Under Phase 1, users can obtain approval for all arriving and departing ships from three public agencies – MPA, the Immigration & Checkpoints Authority and the National Environment Agency – through a single portal. The portal will consolidate up to 16 separate forms into a single application. This is expected to save the shipping industry an estimated 100,000 man-hours annually. DigitalPORT@SG will also have data exchange with port community systems such as Portnet and Jurong Port Online to receive relevant information including declaration on dangerous goods (DG) operations at the port terminals.

Under Phase 2, the system will be enhanced to also serve as a single digital shopfront for booking terminal and marine services, facilitating Just-In-Time (JIT) operations for optimal vessel passage planning within Singapore port.

**Just-In-Time (JIT)**

The JIT Planning and Coordination System is a common platform for JIT marine services booking to facilitate efficient sharing of information. Real-time updates on the ship’s arrival time at port, pilot boarding time on ship and berthing time at terminal will be provided via a dashboard to authorised stakeholders such as ICA, shipmasters, shipping agents, terminal operators and service providers. This will aid decision-making and allow better coordination, planning and allocation of port resources among the stakeholders. Likewise, the availability of berths, pilots, tugs, bunker barges, ship supplies and other port services could be shared in advance so that calling ships can adjust their sailing speed, route or time of arrival at various locations in port. By offering dynamic JIT planning and coordination, the JIT eases the administrative burden of port users.
Automation

Besides digital optimization, plans are also put in place for more automation, intelligent control systems, and sustainable technologies at Tuas Port. Some key innovations will include the state-of-art Next Generation Vessel Traffic Management to manage the future growth of marine traffic and increasing size of ships in Singapore’s port waters. It will assist vessels to avoid congestion through early detection of congestion hot spots and advise the best route to reach the berths safely and efficiently.

Productivity and labour savings will also be key features in the design of the next generation port. Tuas Port will deploy automated port equipment such as yard cranes that can load and unload containers with precision, aided by computers, intelligent sensors and cameras and driverless electrified automated guided vehicles (AGVs) to transport containers among others. At the same time, drones will inspect port equipment and assist in troubleshooting with remote video streaming.
Maritime and Port Authority of Singapore

Organisation Profile

Mission, Vision and Values (MVV)

MPA was established in 1996 as a statutory board under the Ministry of Transport (MOT) to take up roles that were previously performed by the National Maritime Board, Marine Department and regulatory departments of the former Port of Singapore Authority. In 2004, MPA also took on the promotion of commercial shipping, which had previously been handled by International Enterprise Singapore.

MISSION

MPA’s Mission is 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.

VISION

MPA’s Vision is to be a Leading Maritime Agency driving Singapore’s Global Maritime Aspirations.

VALUES

MPA’s Value is Forward Thinking, Integrity, Respect, Service Excellence and Team Work.

Business Model

The strategic thrusts in the MPA Future Ready Framework support all of MPA’s missions.
Premier Global Hub Port

- World’s busiest container transhipment hub
- In 2018, vessel tonnage reached 2.79 billion Gt
- Approximately 1,000 ships in the Port of Singapore at any one time
- Every 2-3 mins a ship arrives or leaves the Port of Singapore
- More than 36.6 million TEUs of container throughput in 2018
- Supplied 49.8 million tonnes of bunker in 2018
- Awarded Best Seaport In Asia 30 Times
- Asian Freight, Logistics and Supply Chain Awards
- Singapore is connected to 600 ports in over 120 countries

International Maritime Centre

- Contributes 7% to our nation’s Gross Domestic Product (GDP)
- Over 170,000 staff in Maritime Singapore
- More than 5,000 maritime establishments
- The SRS is amongst the world’s top 5 largest ship registries
- 150 international shipping groups
- More than 20 major international ship broking firms
- More than 30 local and international law firms with maritime practice
- More than 20 banks offering ship financing
Leadership

MPA’s Senior Management Team

MPA’s Senior Management (SM) team is led by the organisation’s Chief Executive (CE), and comprises 2 Assistant Chief Executives (ACEs) and 15 Heads of Division. The SM is accountable to the Chairman of the MPA Board and the Permanent Secretary of MOT. Together, they work closely to lead MPA while being guided by MPA’s Mission, Vision and Values.

SM, together with the Board and MOT, collaborates actively to deploy and review MPA’s Mission, Vision and Values. Clear alignment to Whole-of-Government (WOG) Strategic Outcomes (see Figure 16) is maintained to clarify how the organisation collaborates with other public service agencies to improve stakeholder experience.
This strategic clarity in MPA’s MVV has continued to improve since its formation. See Figure 17.
The Future Ready Framework: Helping Maritime Singapore Navigate the Future

MPA’s latest top-level review took place in 2014, with the then-CE leading over 350 staff to identify a new way forward for Maritime Singapore amidst an increasingly challenging environment. This review resulted in the development of the Future Ready Framework, while NGP 2030, IMC 2030 and the Sea Transport ITM were all developed to add specificities into roadmaps and facilitate execution.
Spearheading Transformation for Maritime Singapore – Sea Transport ITM

In 2018, MPA launched the Sea Transport ITM. Developed by MPA in partnership with the industry, trade associations and chambers, unions, Institutes of Higher Learning (IHLs) and other government agencies, the Sea Transport ITM serves as a blueprint for sectorial transformation over the next few years.

The Sea Transport ITM outlines strategies to embrace technology, enhance productivity and equip the maritime workforce with the necessary skills to support the growth of a more connected and innovative maritime ecosystem.

It also incorporates recommendations from the NGP 2030 Steering Committee and IMC 2030 Advisory Committee.

Successfully transforming the Sea Transport industry requires strong partnerships with key stakeholders in the ecosystem. To achieve this, MPA leverages on a tripartite partnership consisting of industry stakeholders, unions and government agencies to increase awareness, drive implementation and monitor the progress of key ITM initiatives.

GLOBAL MARITIME HUB FOR CONNECTIVITY, INNOVATION AND TALENT

Key Strategies
- Expand & Deepen Our Maritime Cluster
- Transform the Maritime Cluster Through Digital Innovations
- Strengthen Inter-linkages Between Maritime & Related Sectors
- Develop Manpower Capabilities for the Maritime Cluster

Innovation
- Build A Vibrant Innovation Ecosystem to Drive Competitiveness & New Growth Areas
  - Create an enabling environment for innovation
  - Grow maritime technology enterprises to develop innovative solutions
  - Deepen maritime Research & Development (R&D) capabilities

Productivity
- Build A Productive & Efficient Maritime Environment
  - Adopt effective land use planning & infrastructure design
  - Leverage technology & automation
  - Streamline business processes

Internationalisation
- Support Maritime Companies to Expand Global Footprint
  - Facilitate access to markets of interest
  - Build capabilities of local companies

Jobs & Skills
- Develop a Future Ready Maritime Workforce
  - Strengthen & build new local talent pipelines
  - Redesign job roles & equip workers with new skills
  - Attract & retain talent

Internationalisation
- Support Maritime Companies to Expand Global Footprint
  - Facilitate access to markets of interest
  - Build capabilities of local companies

Promoting a Pro-Enterprise & Sustainable Environment
- Enhance business competitiveness
- Encourage sustainable practices
Maritime and Port Authority of Singapore

**MPA Engages Stakeholders to 3 Levels to Realise Its Mission.**

MPA’s SM provides 3 forms of leaderships – Organisational Leadership, Industry Leadership and International Leadership. See Figure 18.

**Organisational Leadership**

SM deploys a wide range of communication platforms to lead the organisation (see Table 1).

<table>
<thead>
<tr>
<th>Mode</th>
<th>Platform</th>
<th>Objectives</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic &amp; Print</td>
<td>e-Connect Portal</td>
<td>Communicate MVV</td>
<td>Ongoing</td>
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<tr>
<td></td>
<td>Line from CE</td>
<td>Allow CE to communicate messages related to MVV to staff</td>
<td>Ongoing</td>
</tr>
<tr>
<td></td>
<td>Employee Engagement Survey (EES) &amp; Pulse Survey</td>
<td>Capture current staff engagement level and provide opportunities to improve work environment</td>
<td>Annual</td>
</tr>
<tr>
<td>Face-to-Face</td>
<td>Workplan seminar &amp; Management Advance</td>
<td>Communicate MVV, communicate and develop corporate workplans and discuss key projects</td>
<td>Annual</td>
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<tr>
<td></td>
<td>Townhall sessions</td>
<td>Showcase staff initiatives &amp; provide opportunities for open dialogue</td>
<td>Annual</td>
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<td></td>
<td>Values Week</td>
<td>Communicate &amp; role model FIRST values</td>
<td>Annual</td>
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<td></td>
<td>Staff events</td>
<td>Provide opportunities for staff bonding</td>
<td>Annual</td>
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<td></td>
<td>CE’s tea/lunch sessions with staff &amp; foundation programme for new staff</td>
<td>Communicate &amp; solicit feedback on MVV &amp; strategic focus areas, &amp; welcome new staff</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>Conversation with CE (new)</td>
<td>Communicate hot topics &amp; solicit feedback from staff</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>Divisional activity days &amp; divisional dialogue sessions</td>
<td>Communicate &amp; solicit feedback on MVV &amp; strategic focus areas</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>CE’s field trips</td>
<td>Communicate strategic focus areas &amp; understand field operations</td>
<td>Ongoing</td>
</tr>
<tr>
<td></td>
<td>Appreciation Hour</td>
<td>Recognise staff who have shown service excellence &amp; excellence in other projects</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>Festive celebrations</td>
<td>Communicate MVV &amp; provide opportunities for staff bonding</td>
<td>4 times a year to coincide with key festivals</td>
</tr>
<tr>
<td></td>
<td>Future Ready brainstorming sessions</td>
<td>Solicit ideas regarding strategic focus areas from staff</td>
<td>Ad-hoc</td>
</tr>
</tbody>
</table>

**Table 1: Communication Platforms for Organisational Leadership**

**Industry Leadership**

MPA’s SM employs innovative communication methods and a proactive media strategy engage with stakeholders and customers in order to create an awareness about the industry.
International Leadership

Singapore is a small country highly dependent on international seaborne trade. The safety, security, sustainability and efficiency of international shipping is thus important to the nation. Furthermore, shipping is global in nature; Singapore thus needs to play its part and contribute to international and regional efforts to promote safe, secure, sustainable and efficient shipping.

MPA Innovation Framework

MPA’s FIRST Values, especially “Forward Thinking”, drive MPA’s innovation culture. Both top-down and ground-up innovation matter for MPA. The Innovation Framework has been developed to articulate MPA’s approach to nurture a pro-innovation culture (see Figure 19). The framework comprises 3 key thrusts: Align, Ambition and Actions, which work in concert to innovate and create value for both internal and external stakeholders.
Align: MPA drives innovation amongst its staff by providing big picture goals through master plans and key strategies. These visions and strategies are formulated and realised by dedicated committees.

Ambition: MPA enables innovation by providing staff with the tools and resources to nurture innovative ideas. These tools and resources include funding, innovation workshops, sharing of innovation stories and a structured process to review and implement ideas.

Actions: MPA strives to create an environment where creativity and innovation can flourish by engaging its staff in the innovation journey. It does this through recognition/reward schemes and innovation events, as well as by continually celebrating innovation, reinforcing its messages and communicating its Vision.

Diving Deeper into Innovation Culture – The BMW Spirit

In response to feedback provided during 2018’s EES, the BMW (Breakthroughs, Meaningful Impact and Willpower) Spirit was defined to reinforce management support for MPA’s innovation efforts, and cascade expectations on its innovation culture. The BMW Spirit (see box story on Communication to Facilitate the Embracing of Organisational Changes) was developed to remind staff of the right spirit with which to drive innovation. It was first articulated during InnovFest 2019.
Engages Key Stakeholders

Key stakeholders in the strategy development process

MPA engages key stakeholders through numerous platforms to keep abreast of sentiments and developments in the global maritime industry, and to solicit valuable feedback taken into consideration during strategy development. Platforms include SRS Forum, Steering Committee meetings for NGP 2030, PIER71 and MINT Fund, and also quarterly meetings with PSA Corporation (PSAC), Jurong Port Pte Ltd (JPPL) and Singapore Cruise Centre Pte Ltd.

Key stakeholders in the strategy implementation process

MPA adopts a “One MPA, One Partnership, One Maritime Singapore” approach to promote Singapore as a global hub port and IMC. MPA has been actively engaging its key stakeholders, including maritime enterprises, port service providers, IHLs, suppliers and employees to expand its reach within Maritime Singapore, enhancing the effectiveness of its strategy implementation. Table 2 lists the platforms MPA employs to include key stakeholders into the strategy implementation process.

<table>
<thead>
<tr>
<th>How does MPA engage key stakeholders?</th>
<th>Platforms</th>
<th>Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Briefings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety briefings to regional ferry masters</td>
<td></td>
<td>Shipmasters</td>
</tr>
<tr>
<td>Safety briefings to pleasure craft community</td>
<td></td>
<td>Pleasure/ Harbour craft owners</td>
</tr>
<tr>
<td>Maritime cyber security network</td>
<td></td>
<td>Ship owners</td>
</tr>
<tr>
<td>Corporate governance briefing</td>
<td></td>
<td>Ship operators</td>
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<td></td>
<td></td>
<td>Ship agencies</td>
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<tr>
<td></td>
<td></td>
<td>Ship management companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Employees</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appreciation dinner for seafarers &amp; partners</td>
<td></td>
<td>Seafarers</td>
</tr>
<tr>
<td>Union Management Lo-Hei lunch with CE</td>
<td></td>
<td>Unions</td>
</tr>
<tr>
<td>Chinese New Year Lo-Hei lunch with ferry launch operators &amp; tenants</td>
<td></td>
<td>Private organisations</td>
</tr>
<tr>
<td>Management lunch meetings with Port Terminal Operators</td>
<td></td>
<td>Shipping lines</td>
</tr>
<tr>
<td>MPA-SSA meetings</td>
<td></td>
<td>Ship agencies</td>
</tr>
<tr>
<td>Meetings with shipmasters</td>
<td></td>
<td>Ship management companies</td>
</tr>
<tr>
<td>Meetings with business partners/vendors</td>
<td></td>
<td>Shipmasters</td>
</tr>
<tr>
<td>Coordinated meetings with DBJTC’s soil disposal team</td>
<td></td>
<td>Contractors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Suppliers</td>
</tr>
</tbody>
</table>

Table 2: Platforms for Stakeholders Engagement
Engaging stakeholders through NGP Working Committee

For planning and development of the Next Generation Port (NGP), it is a Whole-of-Government effort where there is a total of 3 working committee and 5 sub-committee that comprises of other government agencies and Port Operators. There are also living laboratory and centre of excellence set up with the tertiary institute to support the evaluation and selection of innovative solutions for the NGP.

Engaging stakeholders for Construction of Next Generation Port to prepare for climate change

In 2018, Building and Construction Authority of Singapore commissioned the Coastal Adaptation Study (CAS) involving multiple government agencies, including MPA to set up Coastal Protection Framework and Adaptation Options. Based on recommendation by CAS, to mitigate the threat of sea level rise, the final operational platform level of Tuas Port Phases 1 and 2 have been designed to be about 5 meters above mean sea level which will protect Tuas Port from sea level rise up to year 2100.
### Measurable Impacts (Results)

#### MPA’s Awards Milestone 1996 – 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Gold</th>
<th>Silver</th>
<th>Bronze</th>
<th>1st Place</th>
<th>2nd Place</th>
<th>3rd Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 – 1998</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
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</tr>
<tr>
<td></td>
<td>Culture of Excellence</td>
<td>Singapore Quality Class (SQC)</td>
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<tr>
<td></td>
<td>Choice Employer</td>
<td>SAF Award for Employers</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1999</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
<td></td>
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<tr>
<td></td>
<td>Culture of Excellence</td>
<td>Singapore Quality Class (SQC)</td>
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<td></td>
<td>Choice Employer</td>
<td>SAF Award for Employers</td>
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<tr>
<td>2000</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
<td>Best Bunkering Policy Award</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Culture of Excellence</td>
<td>Singapore Quality Class (SQC)</td>
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<tr>
<td></td>
<td>Choice Employer</td>
<td>SAF Award for Employers</td>
<td>Singapore Health Award</td>
<td></td>
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<tr>
<td>2001</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
<td>Bunkering in Asia Award</td>
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<tr>
<td></td>
<td>Culture of Excellence</td>
<td>Singapore Quality Class (SQC)</td>
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<tr>
<td></td>
<td>Choice Employer</td>
<td>SAF Award for Employers</td>
<td>Singapore Health Award</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2002</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
<td>Bunkering in Asia Award</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Culture of Excellence</td>
<td>Singapore Quality Class (SQC)</td>
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<tr>
<td></td>
<td>Choice Employer</td>
<td>SAF Award for Employers</td>
<td>People Developer</td>
<td></td>
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<td>2003</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
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<tr>
<td></td>
<td>Maritime Knowledge &amp; Innovation Hub</td>
<td>CIO100 Honourees 2003</td>
<td>Enterprise Award</td>
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<td>2004</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
<td>SeaTrade Award for Safety at Sea</td>
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<td></td>
<td>Maritime Knowledge &amp; Innovation Hub</td>
<td>Enterprise Agency Award</td>
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<tr>
<td>2005</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
<td>MHA Award for Nominated Employers</td>
<td>SAF Award for Employers</td>
<td>Singapore Health Award</td>
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<tr>
<td></td>
<td>Maritime Knowledge &amp; Innovation Hub</td>
<td>Enterprise Agency Award</td>
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<tr>
<td></td>
<td>Strong Partnerships</td>
<td>PEP-SBF Pro-Enterprise Award</td>
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<td>2006</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
<td>Maritime Knowledge &amp; Innovation Hub</td>
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<td>2007</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
<td>Environment Protection Award</td>
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<td></td>
<td>Maritime Knowledge &amp; Innovation Hub</td>
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<tr>
<td></td>
<td>Choice Employer</td>
<td>Home Team NS Awards for Employers (Special Award)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2008</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
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<td></td>
<td>Maritime Knowledge &amp; Innovation Hub</td>
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<tr>
<td></td>
<td>Choice Employer</td>
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<tr>
<td>2009</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
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<tr>
<td></td>
<td>Maritime Knowledge &amp; Innovation Hub</td>
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<td></td>
<td>Strong Partnerships</td>
<td>PEP-SBF Pro-Enterprise Award</td>
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<tr>
<td></td>
<td>Choice Employer</td>
<td>May Day Model Partnership Award</td>
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<tr>
<td>2010</td>
<td>Safe, Efficient &amp; Sustainable Global Hub Port</td>
<td>Best Seaport in Asia Award</td>
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<tr>
<td></td>
<td>Maritime Knowledge &amp; Innovation Hub</td>
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<td></td>
<td>Strong Partnerships</td>
<td>PEP-SBF Pro-Enterprise Award</td>
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<td></td>
<td>Choice Employer</td>
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THE WORLD SINGLE LARGEST CONTAINER PORT - Singapore’s Resilient Port of The Future
## Maritime and Port Authority of Singapore

**THE WORLD SINGLE LARGEST CONTAINER PORT - Singapore’s Resilient Port of The Future**

### 2011

- **Strong Partnerships**
  - PEP-SBF Pro Enterprise Award
- **Choice Employer**
  - Honorary Member of the Minister for Defence Awards (IMDA) League
  - Singapore Health Award

### 2012

- **Safe, Efficient & Sustainable Global Hub Port**
  - Best Seaport in Asia Award
- **Culture of Excellence**
  - Eco-Office Certification
- **Strong Partnerships**
  - PEP-SBF Pro-Enterprise Award
- **Choice Employer**
  - MHA Award for NSmen’s Employers
  - People Developer

### 2013

- **Safe, Efficient & Sustainable Global Hub Port**
  - Best Seaport in Asia Award
- **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

### 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

### 2015

- **Culture of Excellence**
  - Corporate ISO Certification
  - Best Practice Competition 2014
  - Restroom Association of Singapore 4-star Happy Toilet Certification
  - Team Symposium 2014 (2 Silver & 1 Bronze Awards)
- **Strong Partnerships**
  - PEP-SBF Pro-Enterprise Award
- **Choice Employer**
  - May Day Model Partnership Award
- **Culture of Excellence**
  - Eco-Office Re-certification
  - Happy Toilet Re-certification

### 2016

- **Safe, Efficient & Sustainable Global Hub Port**
  - Best Seaport in Asia Award
- **Maritime Knowledge & Innovation Hub**
  - MOT Minister’s Innovation Award
  - MO USM Achievement Award
- **Strong Maritime Singapore Identity**
  - 29th International ARC Awards
  - Gold Taggie Award
- **Culture of Excellence**
  - Eco-Office Re-certification
- **Strong Partnerships**
  - PEP-SBF Pro-Enterprise Award
- **Choice Employer**
  - May Day Model Partnership Award
  - NS Advocate Award
  - People Developer

### 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 Identity**
  - 2017 Galaxy Awards
  - 23rd Annual Communicator Awards
- **Culture of Excellence**
  - Corporate Gold Award
  - Eco-Office Re-certification
  - European Society for Quality Research (ESQR) Quality Achievements Awards 2017
  - Golden Peacock Global Award for Sustainability
  - International Best Practice Competition (IBPC) Organisation-Wide Innovation Award
  - ISO 9001:2008 Corporate Re-certification
  - PS51 Star Service Team Award
  - Public Service Premier Award
- **Strong Partnerships**
  - PEP-SBF Pro-Enterprise Award
  - Public Sector Pro-Enterprise Initiative
  - Public Sector Pro-Enterprise Initiative Award

### 2018

- **Safe, Efficient & Sustainable Global Hub Port**
  - Maritime 2020 & LNG Asia Summits
  - (1 of 5 finalists)
  - Green Ports Award System (GPAS)
  - GREEN4SE Asia Awards
- **Maritime Knowledge & Innovation Hub**
  - 6th International Best Practice Competition
  - CAPAM International Innovations Awards (IIA)
  - New Silk Road CEO of the Year Awards 2018
- **Culture of Excellence**
  - Championry Bronze Award
  - Value-for-Money Achievement Awards
  - National Day Awards 2018
- **Strong Partnerships**
  - Honorary Fellowship by the Institute of Chartered Shipbrokers
  - PEP-SBF Pro-Enterprise Award
- **Choice Employer**
  - Champions of Good 2018
  - Sustainable Business Awards Singapore 2018
  - 15th Annual HRM Awards 2018
Retaining Top Spot Internationally

The Xinhua-Baltic International Shipping Centre Development Index

Singapore has clinched the top position in the 2018 Xinhua-Baltic International Shipping Centre Development Index for the 5th successive year. Singapore was ranked ahead of other major shipping centres like Hong Kong, London, Shanghai, Dubai and Rotterdam. The index rates the relative performance of the world’s top 43 maritime centres annually.

The 2018 Asian Freight, Logistics and Supply Chain Award

Singapore has been crowned “Best Seaport in Asia” for the 30th time at the 2018 Asian Freight, Logistics and Supply Chain Award (AFLAS). The Port of Singapore clinched the award for its leading performance on a range of criteria, including cost competitiveness, container shipping-friendliness of the fee regime, provision of suitable container shipping-related infrastructure, timely and adequate investment in new infrastructure to meet future demand and facilitation of ancillary services.

The GREEN4SEA Awards 2018

The GREEN4SEA Awards is an international environment award that fosters Environmental Excellence and Sustainable Shipping. MPA won the GREEN4SEA Award (Port Category) in 2018. The Port of Singapore was nominated for focusing on four key port development areas: Safe and Secure Port, Efficient Port, Intelligent Port, and Clean and Sustainable Port. MPA was also recognised for its efforts in encouraging the use of LNG as a marine fuel in Singapore, and for making the use of MFMs mandatory.
Awards Received in 2018

**6th International Best Practice Competition - Top 10 Best Practices for the project on Accelerating Innovation in the Maritime Industry through the MPA Living Lab**
**12 December 2018**

The International Best Practice Award Competition (IBPC) was founded by the Centre for Organisational Excellence Research (COER), the developers of the Business Performance Improvement Resource and the TRADE Best Practice Benchmarking methodology. The awards are supported by the Global Benchmarking Network to encourage the sharing of work practices to help organisations to quickly raise their performance and improve business results.

MPA was awarded Top 10 Best Practices for the project on Accelerating Innovation in the Maritime Industry through the MPA Living Lab. The 6th International Best Practice Award Competition (IBPC) was held in Abu Dhabi, UAE from 10 to 12 December 2018.

**Maritime 2020 & LNG Asia Summits - Most Extraordinary Contribution to HSSE Award**
**27 November 2018**

The LNG & Maritime Asia Awards Ceremony recognised the most outstanding achievements of both industries.

The event was supported by Gold Sponsors JXTG Nippon Oil and Energy Corporation and Diamond Gas International, Silver Sponsors Creon Capital and Singapore LNG Corporation, as well as Bronze Sponsors CMA CGM, Cleanth and Teekay, in partnership with Singapore Shipping Association.

MPA won The Most Extraordinary Contribution to HSSE Award for the MPA Port Regulations and Acts on marine safety and environmental protection.

**Green Ports Award System (GPAS)**
**21 November 2018**

The APEC Port Services Network (APSN) launched the Green Ports Award System (GPAS) in 2016 to recognise port operators and administrations who are making substantive efforts to contribute to a more sustainable port development environment. One of the objectives of the APSN is to promote green and sustainable development amongst the APEC port economies. The GPAS Award is the only such award for ports in Asia.

MPA is proud to be amongst the nine recipients of the 2018 edition of the GPAS award. MPA received the inaugural edition of the GPAS Award in 2016.

**Honorary Fellowship by the Institute of Chartered Shipbrokers**
**19 November 2018**

An Honorary Fellowship is the highest honour bestowed by the ICS and reserved for those who have made a significant contribution to commercial shipping and provided consistent support towards the development of the Institute.

Ms Tan Beng Tee, Assistant Chief Executive (Development) of MPA has been conferred Honorary Fellowship of the Institute of Chartered Shipbrokers (ICS). Beng Tee was nominated for Honorary Fellowship consideration by the Institute’s Singapore Branch in July this year and is the first woman to receive such an honour.

**Champions of Good 2018**
**16 November 2018**

Champions of Good is part of the National Volunteer & Philanthropy Centre’s Company of Good programme that exists to empower businesses to do good better.

Champions of Good is an annual recognition of companies that practise good corporate giving and are also committed to influencing and multiplying corporate giving in Singapore. A Champion of Good believes in giving back and advocates for companies to do their part to build and sustain a compassionate and collaborative society.

MPA was awarded the Champions of Good as an attestation of active charity efforts in MPA.

**PEP-SBF Pro-Enterprise Award**
**9 November 2018**

The Pro-Enterprise Panel - Singapore Business Federation (PEP-SBF) Award 2018 recognises the efforts of government agencies in their commitment to stay pro-enterprise as well as their efforts to engage businesses to provide feedback and suggestions to improve the business environment.

The Pro-Enterprise Ranking (PER) Survey comprises five components and measures the effectiveness of current initiatives to build a pro-enterprise regulatory environment in Singapore.

MPA has regained the top ranking in the 2018 Pro-Enterprise Ranking (PER) survey (from second placing in 2017) with a Pro-Enterprise Index of 81.26. The PER Survey measures the effectiveness of current strategies and initiatives to build a pro-enterprise regulatory environment in Singapore.

**CAPAM International Innovations Awards (IIA)**
**24 October 2018**

The Commonwealth Association of Public Administration & Management (CAPAM) 2018 International Innovations Awards (IIA) celebrate the spirit of innovation in the public service by recognising organisations that have made significant contributions to improving governance and services in the public sector. Innovation in public administration and management is demonstrated by novel or alternative means as well as replicable or adaptable solutions that generate significant incremental value to the administrative body and/or to the citizens it serves.

The IIA are held biennially with the 2018 Awards taking place on 24 October 2018 in Georgetown, Guyana.

MPA submitted 2 projects:

Innovation Incubation Category: SAFER: Sensemaking Analytics for Maritime Event Recognition (EIT Division)

Innovation DNA Category: Smart Port Challenge - Supporting Innovation Incubation with Maritime Partners for Start-Ups (RTID Division)

The project on Smart Port Challenge - Supporting Innovation Incubation with Maritime Partners for Start-Ups made it to the semi-finalist round.

The Commonwealth Association of Public Administration & Management (CAPAM) 2018 International Innovations Awards (IIA) celebrate the spirit of innovation in the public service by recognising organisations that have made significant contributions to improving governance and services in the public sector. The IIA are held biennially with the 2018 Awards taking place on 24 October 2018 in Georgetown, Guyana. MPA’s project on “SAFER: Sensemaking Analytics for Maritime Event Recognition” under the category of Innovation Incubation is one of three finalists in the CAPAM IIA programme.
### Charity Bronze Award
**9 October 2018**

The Charity Awards are presented to organisations and individuals who have made significant donations to Community Chest. These donations include outright donations, funds raised from events and contributions through SHARE, Community Chest’s monthly giving programme.

MPA received the Charity Bronze Award for its donations to Community Chest. MPA donated $76,805, out of which, approximately $17,000 is SHARE. The range for donation for Charity Bronze Award is $50,000 - $99,999.

### New Silk Road CEO of the Year Awards 2018
**17 September 2018**

The New Silk Road CEO of the Year Awards serve to recognise Chief Executive Officers with an outstanding record of achievement in the advancement of the international Energy industry’s interconnectivity across Asia to the Middle East. This award started in 2017 and was produced by Gulf Intelligence on behalf of the Government of Fujairah.

Chief Executive, Mr Andrew Tan, was honoured as a winner of the New Silk Road CEO of the Year Awards 2018 in the category of Ports. The New Silk Road CEO of the Year Awards which recognise distinguished industry leaders were given out at a Gala Dinner in Fujairah on Sept. 17th, 2018.

### Minister’s Innovation Award 2018
**13 August 2018**

The Minister’s Innovation Award was inaugurated in 2002 to promote and reward innovation in Ministry of Transport (MOT) and its Statutory Boards (SB).

The projects are as follows:

- **Distinguished Award**
  - TEMAROCK - Specialised multi-purpose fall-pipe pontoon (EIT Division)

- **Merit Award**
  - Development of a Very High Frequency Data Exchange System (VDES) for Future Maritime E-Navigation (Port Systems Division)

#### Good Effort

- **3** AFM (Automatic Rebar Machine using Robotics System) (EIT Division)
- **4** Maritime Incidents and Situation Awareness System (Operations, EIT and Port Systems Division)
- **5** PIER71 – Developing a Vibrant Maritime Innovation Ecosystem with Start-Ups (Port Systems Division)

### National Day Awards 2018
**10 August 2018**

The Singapore National Day Awards recognise individuals who have made significant contributions to public service.

- **The Public Administration Medal (Bronze)**
  - Ms Jasmin Tan Geok Meng (IMC Division)

- **The Commendation Medal**
  - Mr Tee Kim Chuan (Port Systems Division)

- **The Efficiency Medal**
  - Mr Thiak (Operations Division)

- **The Long Service Medal**
  - Ms Ten Kumari D/O A Balbahadur / Operations Division, Mr Tan Kim Poh / Operations Division, Mr Tan Siong Koon / Port Services Division, Mr Gee Soo Hong / Operations Division, Mr Chew Kim Siong / Operations Division, Mr Kwok Chun Yin / Operations Division, Mr Phua Kwee Seng / Operations Division, Mr Tan Chee Seng / Operations Division, Mr Liew Wei Hong / Operations Division and Mr Sumali Bin Juraimi / Operations Division

### MPA ISO 9001:2015
**Corporate Re-certification**
**2 August 2018**

The ISO 9001:2008 is a standard that sets out the requirements for a quality management system. This certification is conducted by accredited Certification Body auditors to provide independent assessment that MPA demonstrated consistent and effective operation of its quality system that meets the requirements of the ISO 9001:2008. There is a new standard ISO 9001:2015 and every one will have to transit to this new standard.

MPA has successfully completed the 1st year surveillance audit and transition to the ISO 9001:2015 standard on 1 and 2 August 2018. The Corporate Re-certification audit was conducted in 2017 and the certification is valid for 3 years (1 year certification and 2 years surveillance audit). In 2018, it transited to the new standard ISO 9001:2015 as part of the first year surveillance audit.

### Value-For-Money Achievement Awards
**27 August 2018**

The award recognises the Value-For-Money (VFM) efforts of the MOT SBs as well as to incentivise MOT SBs to source for projects with the potential to achieve VFM in their organisations.

The projects are as follows:

- **Distinguished Award**
  - Reuse of JTC FI’s Caisson Casting Yard for MPA’s Tuas Terminal Phase 2 (Engineering & IT Division)

- **Merit Award**
  - Service Level Enhancement Initiatives for Singapore Registry of Ships (Shipping Division)

### Special Mention

- **3** Billing Process for Dumping & Monitoring (Corporate Development Division)
- **4** Development of e-Procurement System for MPA (Corporate Development Division)

#### Good Effort

- **5** Construction and Installation of a Beacon at Entrance of Changi Creek (Port Services Division)
- **6** Use of Drones to Augment Existing Aerial Surveillance (Port Systems Division)
- **7** To streamline the Gas-Free inspection process for bunker tankers fitted with MFM system (Operations Division)
- **8** Enhancement of Port Dues Collection for Fishing Vessels
**Sustainable Business Awards**
**Singapore 2018**
**27 July 2018**

The 2018 Sustainable Business Awards (SBA) are the region’s leading sustainability awards organised by event company Global Initiatives in partnership with PwC. The competition entry was through an online platform.

MPA won the Best Public Sector Service award, which is a stand alone award category in the Sustainable Business Awards (SBA) to recognise outstanding performance in sustainability in the public sector.

MPA’s award recognises the significant progress that MPA has made on its sustainability initiatives over the years, embedded on close stakeholder partnership. MPA also began anchoring its initiatives and future development plans to the United Nations Sustainable Development Goals in 2017 in support of the 2030 Agenda for Sustainable Development.

**Asian Freight, Logistics and Supply Chain Awards**
**15 May 2018**

The Asian Freight, Logistics and Supply Chain Awards (AFLAS) awards, organised by freight and logistics publication Asia Cargo News, honour organisations for demonstrating leadership as well as consistency in service quality, innovation, customer relationship management and reliability.

They are conferred based on votes cast by readers of Asia Cargo News.

Singapore has been crowned the “Best Seaport in Asia” for the 30th time at the 2018 AFLAS ceremony held in Shanghai on 15 May 2018. The Port of Singapore clinched the award for its leading performance on a range of criteria, including cost competitiveness, container shipping-friendliness of the fee regime, provision of suitable container shipping-related infrastructure, timely and adequate investment in new infrastructure to meet future demand and facilitation of ancillary services.

**NTUC May Day Awards 2018**
**5 May 2018**

The May Day Awards are bestowed on individuals and companies that have made significant contributions to the Labour Movement, or have helped further its mission to be an inclusive Labour Movement.

The Medal of Commendation (Gold) is conferred to individuals who have demonstrated a continuous track record in supporting the Labour Movement in promoting and implementing progressive workplace practices in companies.

NTUC Central Committee has approved AUSBE’s nomination for Medal of Commendation (Gold) for the NTUC May Day Awards 2018.

The medal is conferred upon Chief Executive, Mr Andrew Tan for his contribution to the good Labour Management Relations (LMR), workers’ welfare and partnership with union.

**Public Sector Transformation Awards**
**4 July 2018**

This award ceremony celebrates and recognises public officers and agencies for their innovations and excellence in public service delivery.

The ExCEL Innovation Champion is to recognise officers who inject innovation and creativity into their work or who have been pivotal in promoting the ExCEL spirit within their agencies.

The ExCEL Innovation Project is to recognise projects or policies that best exemplify the ExCEL spirit as well as to affirm/commend inter-agency collaboration efforts demonstrated by the project teams.
Maritime and Port Authority of Singapore

THE WORLD SINGLE LARGEST CONTAINER PORT - Singapore's Resilient Port of The Future