

MARITIME FRONTIER

Charting Our ITM Journey



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Company Ready for
Transformation?



Expansion Beyond Our Shores: **CHARTING COURSE INTO CHINA'S MARITIME MARKET**

As the world's largest exporter of goods, China operates seven out of the world's top ten busiest ports, presenting unparalleled opportunities for Singapore's MarineTech firms looking for growth overseas. The Maritime Innovation Webinar series provides a bridge connecting enterprising companies in both countries to create new opportunities together.

Enterprise Singapore (ESG) has organised a series of webinars to help Singapore companies access growth markets overseas during the pandemic period when physical travelling was restricted. Feedback from participants have indicated these webinars to be useful in bridging business partners and new opportunities.

In 2020, two webinars on maritime innovation were organised where

Singapore's MarineTech start-ups had the opportunities to present their innovations to Chinese maritime enterprises and government agencies in Ningbo and Zhoushan city, respectively.

Following their success, ESG has organised another maritime innovation webinar this year for Singapore maritime start-ups to access the Chinese market. The new port of call was Tianjin.

As a major Chinese maritime city, Tianjin has many well-established maritime enterprises keen to acquire useful innovations and adopt new technology in their operations. The Memorandum of Understanding that Tianjin and Singapore signed last year at the 9th Singapore-Tianjin Economic and Trade Council Meeting has spurred the development of the Jing-Jin-Ji (京津冀) region and promoted collaborations related to China's Belt and Road Initiatives (一带一路).

Both Tianjin and Singapore share many similarities in that both are vibrant port cities deeply connected to the world economy. There are many areas where we can learn from each other and cooperate for mutual benefits. Innovation and digitalisation are two such areas that are important for the growth and productivity of today's evolving economy. The ongoing pandemic has only accelerated the pace at which companies must adopt innovation and digitalisation to survive and thrive.

The Singapore-Tianjin Maritime Innovation Webinar, held on 6 July 2021, provided an invaluable platform for ten Singapore MarineTech startups – BeeX, Brightree, Ent-Vision, F-Drones, Glee



Tianjin Free Trade Zone

Trees, Groundup.AI, Performance Rotors, Portcast, Supply Logic and Threatspan – to connect and explore opportunities for collaboration with Chinese corporations.

The participants were given timely insights on the maritime development and opportunities in Tianjin by the local trade agencies. Thereafter, the start-ups were invited to share their solutions with their Chinese counterparts, comprising representatives from Tianjin Bureau of Commerce, Maritime Safety Administration, Tianjin Port Group, PSA Tianjin, and various Tianjin maritime corporations. This was followed by a lively Q&A.

Aerial view of Port of Tianjin



The webinar was well-received by private and public sector participants from both countries. The Tianjin corporations were interested to explore the innovative solutions presented by the start-ups. The Singapore MarineTech firms had a better understanding of China's maritime landscape and acquired useful contacts that would pave the way for future discussions and collaborations.



RESOURCES FOR GOING INTERNATIONAL

Companies planning to internationalise should consider tapping on the financial and non-financial support from government agencies, such as ESG and MPA.

Some of the assistance available include:



- **Market Readiness Assistance (MRA) Grant¹** provides up to 80% funding support for firms looking to internationalise.



- **Global Innovation Alliance (GIA)²** connects Singapore companies to overseas business and tech communities.



- **Global Ready Talent Programme (GRT)³** supports the hiring of the right talent to help Singapore enterprises expand overseas and compete in international markets.

THINKING OF GOING OVERSEAS?

Following the Singapore-Tianjin Maritime Innovation Webinar, ESG organised a roundtable session on 14 September 2021 with **Maritime Blue⁴**, a state-sponsored maritime accelerator based in Washington D.C., USA, for six Singapore Maritime start-ups to familiarise them with the US maritime innovation landscape. More trade events like this will be organised to expose Singapore start-ups to the international scene and collaboration opportunities.

Accessing overseas trade opportunities is just a click away. Singapore maritime start-ups and enterprises looking to grow overseas can access ESG online resources for **Sea Transport⁵** or contact **Ms Iris Quah** at iris_quah@enterprisesg.gov.sg

Notes:

- 1 Market Readiness Assistance (MRA) Grant - <https://www.enterprisesg.gov.sg/financial-assistance/grants/for-local-companies/market-readiness-assistance-grant>
- 2 Global Innovation Alliance (GIA) - <https://www.enterprisesg.gov.sg/industries/hub/startup/global-innovation-alliance>
- 3 Global Ready Talent Programme (GRT) - <https://www.enterprisesg.gov.sg/non-financial-assistance/for-singapore-companies/talent-attraction-and-development/internships/global-ready-talent-programme-for-companies/overview>
- 4 Maritime Blue - <https://maritimeblue.org/>
- 5 Sea Transport - <https://www.enterprisesg.gov.sg/industries/type/sea-transport/industry-profile>

ELECTRONIC BILL OF LADING

BOOKING NUMBER

BILL OF LADING NUMBER

EXPORT REFERENCES

SHIPPER / EXPORTER

FULL NAME

ADDRESS

CONSIGNEE

FULL NAME

ADDRESS

GET YOUR
SHIPMENTS
ON THE
FAST LANE WITH
**ELECTRONIC
BILLS OF
LADING**

Say goodbye to paper-based Bills of Lading as electronic transferable documents gain legal recognition for cross border trade under Singapore's amended Electronic Transactions Act.

A bill of lading (BL) is a legal document bearing details on the contents and destination of goods to be shipped. As an official contract of carriage issued by an ocean carrier to the shipper, these paper-based BLs must accompany a shipment from the point they are loaded onto a vessel, until they reach the consignee at the predetermined location.

To attest to merchandise ownership, BLs must be signed by authorised representatives from the shipper, carrier, and consignee. Possession of the original BL is crucial as such because it needs to be surrendered to the carrier at the end of the journey by the consignee before the goods can be released.

At **Ocean Network Express (ONE)**⁷, a Singapore-headquartered global shipping company handling over

220 port calls in 120 countries around the world, there is a real risk of losing physical BLs due to theft or misplacement during transportation.


"Being the sixth largest container carrier in the world, we may excel in our operations but have little control over the time it takes for paper documents to change hands between different parties. I remember during the early days of the pandemic, when the closure of offices coupled with courier delays resulted in some containers being held up because consignees couldn't receive or return the original documentation," shared Mr Luiz Almanca, ONE's Digital Business Senior Manager responsible for Business Process and IT Strategy & Innovation.


Although Electronic Bills of Lading (eBLs) were introduced as early as the 1990s, the lack of standards and interoperability

Notes:

⁷ Ocean Network Express (ONE) - <https://www.one-line.com/en>

WHAT IS THE ETA?





The Electronic Transactions Act (ETA) facilitates the use of e-commerce and e-transactions by giving e-contracts and e-signatures the same status as written contracts and signatures

ETA amendments enable the creation and use of Electronic Transferable Records (ETRs), such as electronic Bills of Lading (eBLs)

Source from IMDA



has prevented their widespread adoption across industries. Driven by the impetus to accelerate digital trade, the **Electronic Transactions Act (ETA)**⁸ was amended in March 2021 to ensure that Singapore’s legal and regulatory infrastructure kept pace with international trade laws and evolving technologies. Interoperability across digital ecosystems would be made possible by **TradeTrust**⁹, a digital utility for the trusted exchange of trade documents across supply chains.

In line with this development, the Maritime and Port Authority of Singapore (MPA), supported by the Infocomm Media Development Authority (IMDA) and Singapore Customs, came together with industry partners to trial the deployment of eBLs recently. The trial entailed a live shipment of processed food products from Vietnam to Rotterdam via Singapore, carried aboard a ONE container vessel.

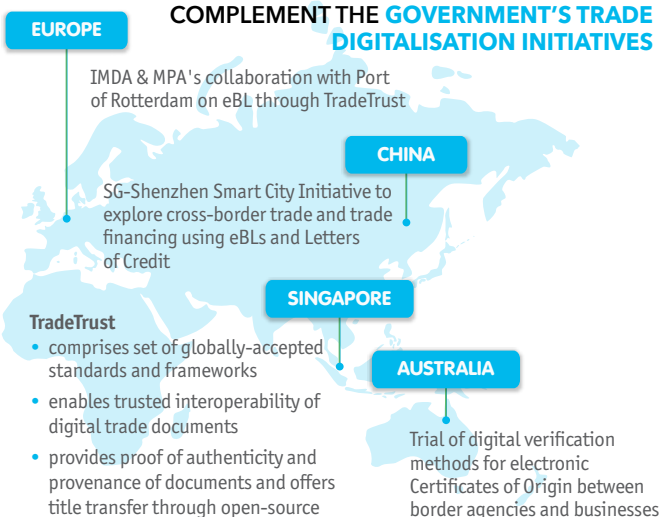
The title transfer and eBL surrender transactions were performed using different digital systems, including a Singapore-based blockchain platform developed by **dltledgers**¹⁰ for the shipper, and a Netherlands-based NaviPorta platform for the consignee. With TradeTrust in place, the trial demonstrated that cross-platform interoperability could be achieved – the eBL issued by one platform could be verified and processed by another.

Mr Almanca remarked, “With eBLs, the time taken for the whole transaction chain can be decreased from weeks to a matter of hours! The workflow was also simpler and more secure, as documents were encrypted and cannot be forged or stolen. As a global carrier, we want to be ready and fully enabled to scale this across geographies and solutions. In this respect, MPA has been extremely supportive of ONE’s digitalisation efforts, co-opting more industry users as well as organising trials, seminars and events to promote eBL adoption industry-wide.

“Awareness of eBL solutions might still be nascent at the moment, but I would imagine its adoption to be very swift once companies begin to

 :DIGITAL
 INFOCOMM MEDIA DEVELOPMENT AUTHORITY

THE ETA AMENDMENTS SUPPORT AND COMPLEMENT THE GOVERNMENT’S TRADE DIGITALISATION INITIATIVES



EUROPE

IMDA & MPA’s collaboration with Port of Rotterdam on eBL through TradeTrust

CHINA

SG-Shenzhen Smart City Initiative to explore cross-border trade and trade financing using eBLs and Letters of Credit

SINGAPORE

TradeTrust

- comprises set of globally-accepted standards and frameworks
- enables trusted interoperability of digital trade documents
- provides proof of authenticity and provenance of documents and offers title transfer through open-source software

AUSTRALIA

Trial of digital verification methods for electronic Certificates of Origin between border agencies and businesses

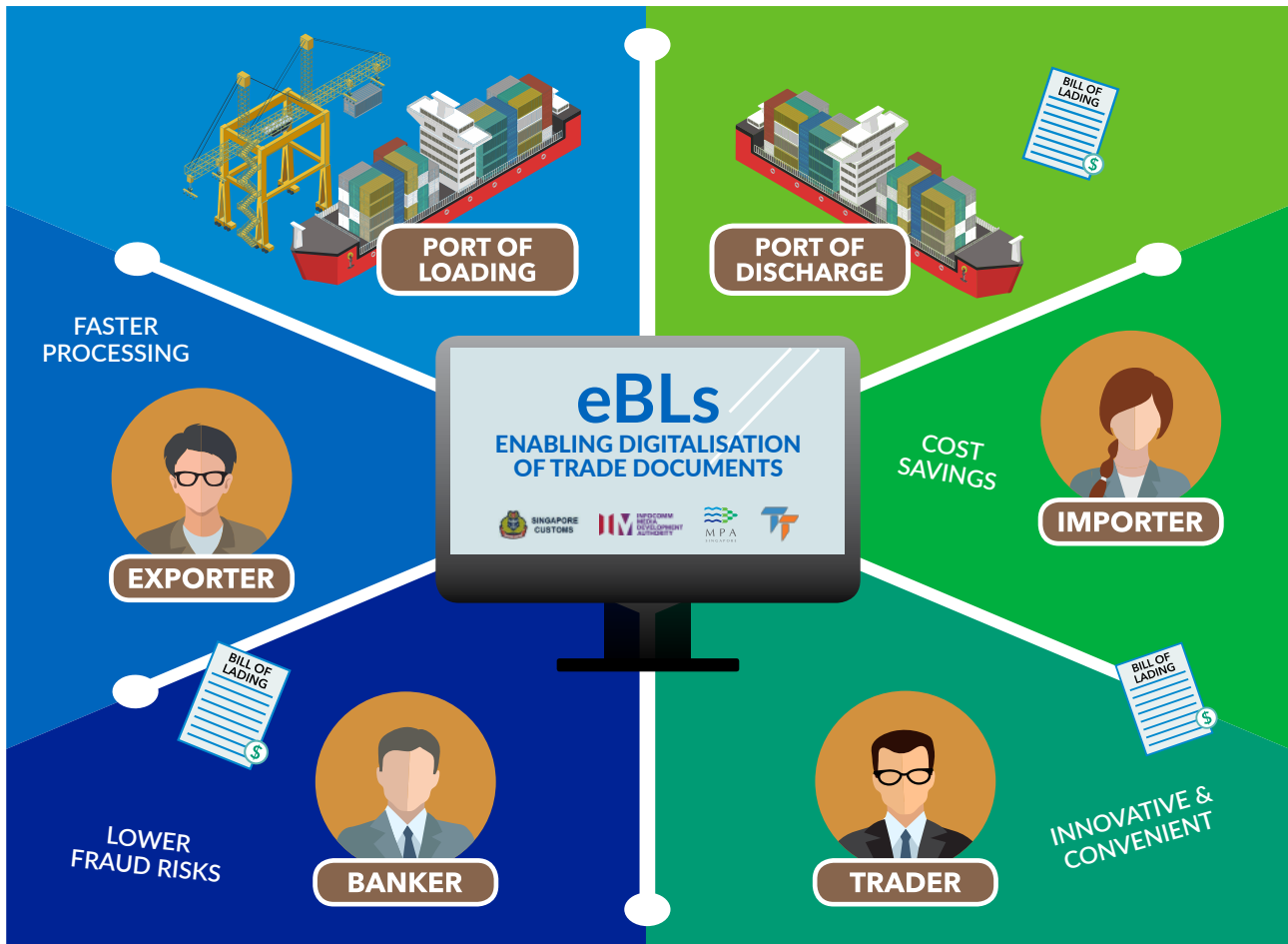
Source from IMDA

Notes:

8 Electronic Transactions Act (ETA) - <https://www.imda.gov.sg/regulations-and-licensing-listing/electronic-transactions-act-and-regulations>

9 TradeTrust - <https://www.imda.gov.sg/regulations-and-licensing-listing/electronic-transactions-act-and-regulations>

10 dltledgers - <https://dlt.sg/>



take the first steps. Considering the changes in the industry and legislation, I expect to see a critical shift towards electronic documentation happening in the next two to three years, with eBLs being just one part of the fuller digital transformation,” he added.

On the pervasiveness of blockchain solutions in the maritime sector, Mr Samir Neji, Founder of dltledgers, was of the view that many enterprises already understand the value and insights that can be obtained from data. However, they are still looking for the right innovation partners as there are still some uncertainties regarding the technologies involved.

“Enterprise blockchain provides a decentralised network, guaranteeing users with quality information sharing within a robust and trusted framework.

Through the eBL trial, we were able to demonstrate the cost and time savings of paperless transactions in title and ownership transfers and the release of goods from the port. With the advancements in complementary technologies like artificial intelligence and machine learning, I believe we’d have plenty of headroom to come up with better and more customised solutions for shippers and consignees,” said Mr Neji.

Mr Farooq Siddiqi, CEO of dltledgers, had a similar view. He said, “In the next developmental phase, we’re looking to incorporate banking networks into the digital platform for eBLs. We believe that the financing process can be equally seamless, that process efficiency can be further strengthened, and information exchange can take place without human error or risk of fraud.”



RIDING THE DIGITAL WAVE

*For IMC Industrial Corporation, the aspiration to become a “future-fit” organisation with **agile** and **purpose-driven** systems for informed decisions has put the company on the highway to digital transformation.*

IMC Industrial Group (IMC)¹¹ is a leading provider of maritime and industrial supply chain solutions, with extensive businesses ranging from dry and liquid bulk shipping to port and logistics services, maritime and offshore engineering, and palm oil plantations. While the company has a rich history in maritime transportation, its shipping units manage the day-to-day business using different commercial ship management systems and platforms. This has resulted in various operational inefficiencies, especially when managers require a consolidated view of the business performance for timely reporting.

“On their own, the liquid bulk, dry bulk and parcelling units were all doing very well. However, as a corporation, we need a more forward-looking solution – one that could integrate and streamline our commercial shipping functions, provide real-time and more effective business oversight for informed decision-making, and standardise work processes for improved productivity,” said Mr Ryan Chan, IMC’s Group Managing Director.

The advent of big data and IoT technologies provided the added incentive to digitalise, even if change management was necessary to onboard

Notes:

¹¹ IMC Industrial Group (IMC) - <https://imcindustrialgroup.com/>



*Left:
Mr Ryan Chan,
IMC's Group
Managing Director*

*Right:
Mr Frederik
Guttormsen,
Managing Director
of IMC Shipping*

all employees to a cloud-based Integrated Maritime Operations System (IMOS) platform. This did not deter the management team from pushing ahead with the transformation, given that the benefits would ultimately strengthen value creation, bolster staff capabilities, increase cost optimisation, and heighten customer experiences.

The company embarked on the digitalisation effort in 2019. With its comprehensive suite of connected solutions, the IMOS was easy to implement across different workflows. Mr Frederik Guttormsen, Managing Director of IMC Shipping, elaborated, "For our dry bulk and parcelling verticals, the goal was to enhance voyage management and resource utilisation through timely data insights. The digitalised platform allowed us to track our vessels in real-time and make better business decisions.

"For our liquid bulk operations, we needed a platform that could support our growing chemical tanker fleet. We

have integrated various digital tools to allow for continuous improvement, and the added transparency and optimised performance can now be shared with our partners and pool members as we continue to expand our pool."

Beyond the benefits of data analytics, standardised work procedures presented another key advantage. With the IMOS in place, business units were able to execute their tasks more effectively, producing timelier and more consistent noon reports due to the system's automatic workflow and industry-compliant reporting templates. The improvements in booking and scheduling of cargoes, matching of cargoes to the right ships, and open cargo/capacity planning have also translated into business and revenue growth for the shipping operations.

Mr Guttormsen estimated that the company had achieved about 20% in man-hour savings since the new and revised workflows were introduced

in July 2020 to the commercial and shipping operations.

“The productivity gains can now be re-directed to higher value-added initiatives to improve business competitiveness,” he said.

To ensure a smooth transition, the company made it a point to actively engage with its employees throughout the digitalisation journey, from vendor selection to solution development and implementation.

“We assisted our internal stakeholders and worked as a team to improve user

adoption. We flagged any workflow concerns and identified specific training needs early to alleviate people’s anxieties and mitigate implementation risks. Overall, we’re excited about contributing towards Singapore’s maritime future by developing a future-ready workforce,” revealed Mr Guttormsen.

At the Group level, Mr Chan believed that digitalisation was necessary in paving the way to operational excellence and positive business outcomes.

“We’re taking very proactive and strategic steps to update our technologies and stay ahead of the



The IMOS has enhanced visibility across IMC’s business units while improving work efficiency.

curve. We'll also continue to adopt and sustain our digitalisation drive by investing in our people and relevant solutions for our business," said Mr Chan. "The COVID-19 crisis has truly demonstrated a need for the shipping industry to future-proof itself for more seamless information flow. Although we were in the thick of the pandemic when the IMOS went live, the effort has paid off as it has made our commercial and shipping units more resilient to challenges."


"The MPA **Maritime Cluster Fund - Productivity**¹² had been a great help to us in this regard. The funding aims to facilitate maritime growth through productivity improvements and technology adoption, and I would encourage all business leaders to take this up and embrace the digital transformation wholeheartedly," urged Mr Chan.

Notes:

12 *Maritime Cluster Fund - Productivity* - <https://www.mpa.gov.sg/web/portal/home/maritime-companies/setting-up-in-singapore/developing-manpower/maritime-cluster-fund-mcf>

13 *IMC Ventures* - <https://www.imcventures.vc/>

14 *PIER71* - <https://www.pier71.sg/>



CATALYSING SUSTAINABLE GROWTH IN THE MARITIME AND LOGISTICS SECTOR

As the venture capital arm of IMC, **IMC Ventures**¹³ mandate is to invest in maritime start-ups that bring value to IMC's businesses through sustainable technologies.

IMC Industrial Group and IMC Ventures have been working closely with **PIER71**¹⁴ (a collaboration between MPA and NUS Enterprise) to partner with maritime start-ups to pioneer and scale their innovations by granting access to IMC's network of customers, in-depth market experience, specialised technical knowledge, infrastructure and resources across the Asia Pacific.

To find out more about IMC Industrial Group and IMC Ventures, do get in touch with:

IMC

ryanchan@imcindustrialgroup.com

frederikguttormsen@imcindustrialgroup.com

PIER71

enquiries@pier71.sg





Are You and Your Company **READY FOR TRANSFORMATION?**

The Maritime and Port Authority of Singapore (MPA) has been working with the industry and unions to help the workforce and job seekers keep pace with rapid changes in the maritime sector. Here are some recent initiatives aimed at helping organisations and their employees, as well as those looking for careers in the maritime sector.

Digitalisation and sustainability have spurred the rapid pace of maritime transformation, bringing about growth opportunities as well as changes that will require new jobs and skillsets. To ensure that maritime companies can continue to

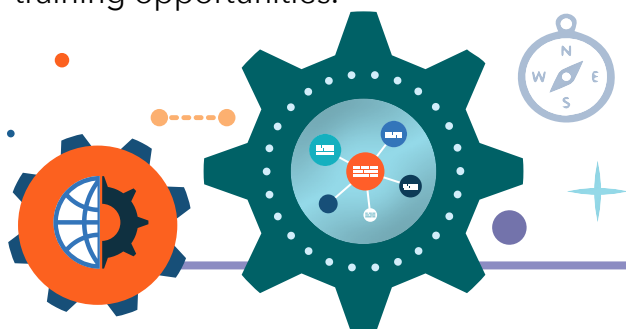
attract, retain and upskill talent to meet these evolving needs, MPA has been working on various fronts to engage with job seekers and support the industry through manpower development initiatives.

MARITIME SINGAPORE CONNECT (MSC) MARITIME CAREER FAIR

The virtual Maritime Singapore Connect (MSC) Maritime Career Fair event was held from 25 to 29 October 2021. The event drew over 500 participants and saw 23 maritime companies offering some 200 jobs – a record number since the fair's inception in 2016.

The MSC Office provides job seekers with easy access to maritime careers and training opportunities.

For those who missed the chance to attend the career fair, the **MSC career portal**¹⁵ remains abuzz with workshops and other opportunities designed for newcomers as well as mid-career professionals seeking educational pathways for growth in the maritime space. Maritime employers are encouraged to sign up for a free account to advertise their job openings and internship opportunities and connect with new and seasoned maritime talent. The portal also provides a directory where jobseekers can get updates on the latest recruitment activities and events.



ENHANCED CAREER CONVERSION PROGRAMME (CCP)

MPA has teamed up with Workforce Singapore (WSG) to launch an **enhanced Career Conversion Programme (CCP)**¹⁶ for sea transport professionals and associates. Catering to PMETs and non-executives, the CCP is aimed at mid-career individuals thinking of taking up a new occupation or moving to a different sector. Other than providing these individuals with structured reskilling programmes, the CCP also offers a co-funding arrangement where WSG provides salary and course fee subsidies to employers.

The enhanced CCP is expected to benefit up to 300 individuals over two years, with programme features ranging from a new Job Redesign and Reskilling (JRR) pathway, a specialist Maritime Superintendency track, and additional provisions to cater for associates. The predecessor CCP for sea transport and port professionals had supported 160 individuals over three years. Companies and individuals can click **here**¹⁷ for more details on the CCP and how to sign up.



Notes:

¹⁵ MSC career portal - <https://www.maritimesgconnect.com/>

¹⁶ Enhanced Career Conversion Programme (CCP) - <https://www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/eba637d4-7aad-4dbf-a7db-23404c291cc7>

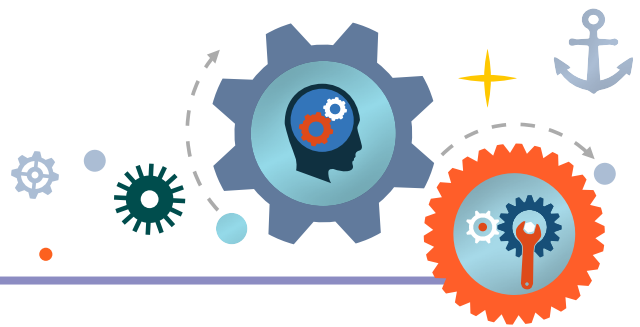
¹⁷ More details on CCP - <https://www.mpa.gov.sg/web/wcm/connect/www/bc4a0ca5-174a-43af-9927-43d2dd9e87f0/Factsheet+-+CCP+for+Sea+Transport+Professionals+and+Associates.pdf?MOD=AJPERES>

NATIONAL TRADE UNION CONGRESS' (NTUC) COMPANY TRAINING COMMITTEES (CTC)

The Labour Movement is another avenue for companies to seek support for business strategy planning, job matching, job redesign (JR), workforce training and leadership development initiatives. Specifically, the **National Trade Union Congress' (NTUC) Company Training Committees (CTC)**¹⁸ are geared at helping workers and companies transform for the future. Through the CTC, companies can partner with their union representatives on plans to expand and transform business operations, recruit and retain staff for specific jobs, and identify learning and training needs for holistic

transformation. CTC companies will be guided along with a collaborative and consultative approach towards developing a transformation roadmap, focusing on manpower and productivity solutions.

To learn more about the CTC, maritime companies can email trainandtransform@ntuc.org.sg.



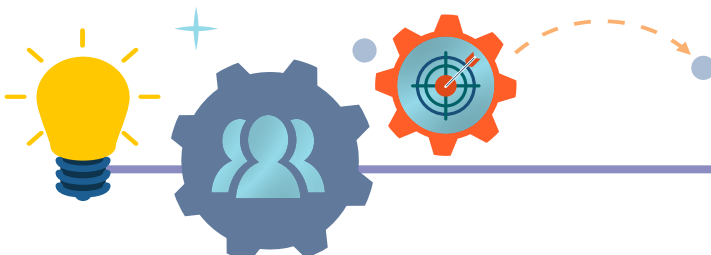
JOB REDESIGN (JR) FOCUS GROUP DISCUSSION (FGD)

To better understand the pain points in current job roles and necessary skillsets required in the rapidly changing maritime sector, MPA conducted a series of JR FGDs in June 2021 to study the impact of the various disruptive forces on maritime jobs. 101 HR and function leads from 58 companies took part in the discussions. Through the FGDs, MPA garnered valuable insights from industry representatives on how various job tracks may be better redesigned as part of the workforce transformation strategy to improve local talent attraction, upskill/

reskill locals and strengthen retention in maritime. MPA is partnering the Singapore Maritime Foundation on JR initiatives, which will be a key intervention enabling the sector's digitalisation, technology adoption and decarbonisation efforts. JR pilot projects will be guided by appointed consultants, and the learnings will form part of a workforce transformation guide which will be a free resource for the industry.

Companies keen to find out more on the JR initiative may email:

Julia_Zhu@mpa.gov.sg
davidlee@sgmf.com.sg



Notes:

18 NTUC CTC - <https://usme.org.sg/AdvisoryServices/Pages/Company-Training-Committee.aspx>



Maritime Frontier is a quarterly electronic newsletter produced by the Maritime and Port Authority of Singapore (MPA). The publication aims to inform and engage the maritime industry as well as workforce in Singapore on the various initiatives and opportunities under the four pillars of Productivity, Innovation, Jobs and Skills, and Internationalisation of the Sea Transport Industry Transformation Map.

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