The Chartered Institute of Logistics and Transport

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CILT Buzz

THE CHARTERED INSTITUTE OF LOGISTICS AND TRANSPORT SINGAPORE

DEEP DIVING NAVAL EXCELLENCE

INSIDE

CILTS and Republic of Singapore Navy sign MOU

Volume 5, Issue 10

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CHAIRMAN'S MESSAGE

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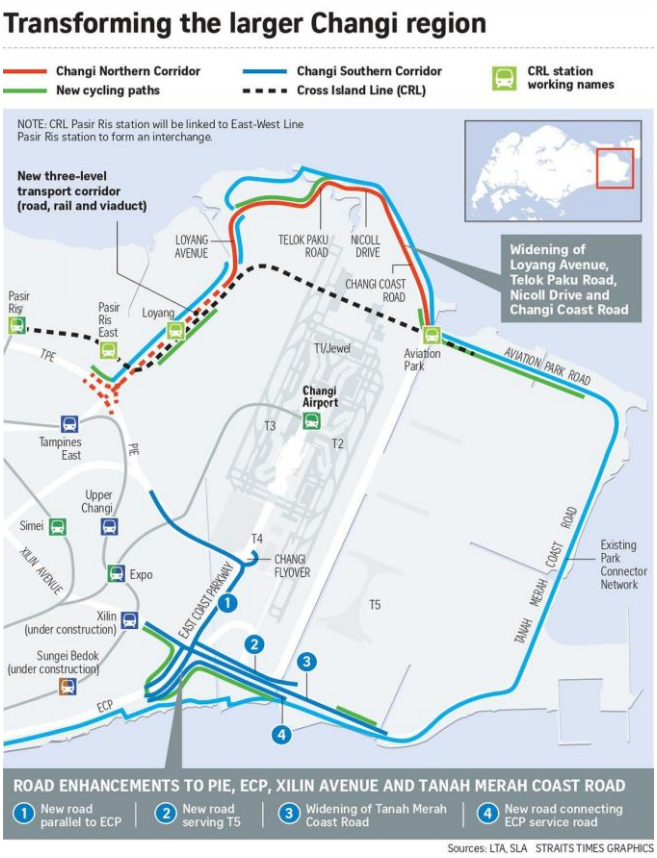
Dear Colleagues,

There is still no encouraging sign on global peace. Regional wars in Europe and the Mid-East continue unresolved, with increasing risks in escalation given more NATO logistics support for Ukraine, as well as the surprise Israeli attacks against Hezbollah in Lebanon. Instability and volatility of international trade and supply chain flows remain. US-China trade tensions could get worse after the Nov US presidential elections. Meanwhile, Southeast Asia and ASEAN continue to experience strong FDI inflows, including investments from PRC companies, with ensuing realignment of intra-Asia supply chains.

The semiconductor supply chains in Singapore and Malaysia, as well as Indonesia's EV related nickel production supply and value chains are strengthening. Food Security, Energy Security and Water Security, and related supply chain issues, together will require concerted global policy co-ordination and actions in support of a New Green Revolution envisioned by the Global Commission on Economics of Water.

The recent talks on the EU-Singapore Digital Trade Agreement (EUSDTA), when formally concluded and signed, will strengthen end-to-end digital trade. This will establish trusted and secure digital systems, thus benefitting bilateral and EU-ASEAN regional supply chain integration and trade growth.

LTA / LAND TRANSPORT — In addition to LTA's plan to expand the existing Tuas Road viaduct and other road upgrading works in Tuas South to support the 10-year Phased Industrial Developments and future growth of Tuas Mega Port, it has now announced awards in new $522m roadwork improvement contracts in Changi North and Changi South, in preparation for the future Changi Airport Terminal 5. These Changi Northern and Changi Southern Corridor roadworks and related Infrastructure upgrading will also support the future industrial and business districts when the works are progressively completed by 2034.



LTA is also undertaking a review of the Point-to-Point (P2P) transport sector to ensure the continued smooth and efficient functioning of the sector. Between the 2nd quarter of 2023 and the 2nd quarter 2024, the number of active Private Hire Cars (PHCs) and Taxis increased by 8%, while the average daily number of P2P trips increased by only 1%. This moderated fares and drivers' earnings. The average cost of P2P trips had declined in the first half of

2023 after peaking at the start of the year. Thus, P2P fares are subject to "seasonal fluctuations" and tend to rise during festive seasons or major national events. Demand tends to dip during school holidays, when many Singaporeans holiday abroad. Instead of limiting the number of P2P drivers, the Government has opted to "allow the supply of P2P drivers to move in tandem with commuter demand and price signals."

COMFORT DELGRO (CDG) — CDG's Australian unit recently secured contracts to operate 3 BUS FRANCHISES worth S$1.4bn in Victoria, Australia. The contracts are for a 10-year term, commencing July 2025. The contracts comprise 250 public bus and school routes serviced by more than 360 buses.

SEA / MARITIME — Following a 4-month trial by MPA and PSA Singapore, MPA has approved the night towing of container barges at Pasir Panjang Terminal as part of its effort in increasing the speed and capacity of maritime cargo handling. This has helped to ameliorate the long waiting times for marine vessels experienced during the worst port congestion in May and June. The congestion was triggered by strong berth demand and off-schedule ship arrivals amid the then diversions from the Red Sea route, resulting in container ships waiting for up to 7 Days for a berth. In addition, PSA has also since commissioned NEW berths at Tuas Port and reactivated berths and yard spaces at Keppel Terminal to also improve connectivity and efficiency with regional ports.

A restructuring of the world's largest shipping lines and shipping networks is underway as a result of the major Red Sea crises and massive shipping diversions and service disruptions around the cape. MAERSK and MSC will dissolve their existing alliance. Maersk will partner Germany's Hapag Lloyd as the new GEMINI Alliance and focus on Asia-US shipping routes, while MSC will operate independently.

A New PREMIER Alliance, between Taiwan's YANG MING, South Korea's HMM and Singapore headquartered OCEAN NETWORK EXPRESS will operate key east to west shipping routes. The restructuring of the shipping liners and routes will affect the enroute ports and also strengthen the Connectivity, Transhipment Services and Schedule Reliability via TUAS mega port, thereby enhancing global supply chains.

AIR / AVIATION / AIRPORTS — The Director General of Airports Council International (ACI) Asia-Pacific & Mid-East, Stefano Baronci highlighted a CONGESTION challenge for Asia-Pacific airports as domestic and international passenger traffic is projected to reach 8.7bn by 2042. As a result, AIRPORT CHARGES in the Asia-Pacific could soar if additional airport infrastructure and new capacity are not planned and timely implemented.

MILITARY LOGISTICS / HUMANITARIAN OPERATIONS — In addition to the SAF combined military (Army, RSAF and RSN) humanitarian operations and logistics capabilities in support of regional emergencies and natural disasters like major earthquakes and cyclones, Singapore will also be able to deploy a World Health Organisation (WHO) CERTIFIED EMERGENCY MEDICAL TEAM (EMT) within 72 Hours upon activation.

The SingHealth cluster has trained 66 healthcare personnel under the Singapore Emergency Medical Team (SGEMT) initiative. The team includes emergency department specialists, paediatric specialists, midwives and psychologists. Singapore's 3 Healthcare Clusters will each take turns to be on standby for deployment, and rotate every 6 months. The SGEMT base of operations is located at the Home Team Tactical Centre, which was recently inaugurated after completing the verification process by the WHO.

ENERGY SECURITY / SUPPLY CHAIN ASEAN REGIONAL POWER GRID — Singapore plans to double its ELECTRICITY IMPORT CAPACITY via a Regional Grid by extending its initial Laos-Thailand-Malaysia-Singapore (LTMS) Power Integration Supply Chain i.e. Spore's first Clean Energy import project. The LTMS Power Supply Chain plan is a pioneering effort for the proposed ASEAN Regional Power Grid, which envisions the sharing of excess power to meet the rising electricity demand, thus ensuring ENERGY SUPPLY CHAIN security.

Having a connected and integrated power grid will also enable better optimisation of Green Power. Singapore and Malaysia had upgraded their shared transmission infrastructure i.e. Interconnector in 2022 to promote cross-border transmission and clean energy trading, to accommodate up to 1,000MW of electricity. As part of a 2-year trial, Singapore's YTL Power Seraya imports 100MW of electricity from Malaysia's TNB Genco. This will help strengthen Grid and Supply Chain Resilience.

Karmjit Singh
Chairman

CILT UK WEBINAR: HUMANITARIAN LOGISTICS – SUPPLY CHAIN RESILIENCE IN ACTION
10 OCT 2024, 2.30 AM (SGT)

CILT UK Webinar: Humanitarian Logistics – Supply Chain Resilience in Action

Thames Valley Group is privileged to welcome Alia Garaibeh, Regional Director for the Middle East, HELP Logistics, as speaker in their latest humanitarian logistics webinar.

Humanitarian actors today face a multitude of operational and environmental risks that can result in supply chain disruptions. Building resilient supply chains is key to ensuring the availability of life-saving commodities and begins with understanding the operating environment and the contextual factors that make them susceptible to disruptions.

Registration for CILT members is free. For non-members registration is £5.00 inc. VAT.

REGISTER

WiLAT CALF PROGRAMME

WiLAT's signature CALF programme is going to Malaysia. Registration is now open.

Come join us and learn from our successful leaders!

Women in Logistics and Transport

For information on joining WiLAT, please contact WiLAT Singapore Chairperson Kelly Lee at WiLAT.SG@cilt.org.sg

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REPUBLIC OF SINGAPORE NAVY and THE CHARTERED INSTITUTE OF LOGISTICS AND TRANSPORT SINGAPORE SIGN MOU

SINGAPORE, 3 September 2024 - The Republic of Singapore Navy (**RSN**) and The Chartered Institute of Logistics and Transport Singapore (**CILTS**) signed a 4-year Memorandum of Understanding to cooperate in fostering opportunities for exchanges of information, skills, experiences and resources.

The areas identified for cooperation are as follows:

1. Logistics and Supply Chain Management;
2. Digitalisation;
3. Professional Training, Education and Accreditation; and
4. Such other areas as may be mutually agreed in writing.

ME7 Khoo Koh Giok, Head Naval Engineering and Logistics shared: "As a Maritime Nation dependent on global trade, the RSN is keenly aware of the critical role that supply chain plays to keep our economy prosperous and safeguard the way of life of Singaporeans. COVID-19 pandemic was a stark reminder and brought to the fore the importance of having a robust and resilient supply chain. The RSN seeks to constantly strengthen our supply systems and deepen the professionalism and expertise of our Supply Corp. The partnership with CILTS, a global professional body, offers us valuable opportunities to broaden our networks and learn the best practices so as to build a more resilient supply chain for our Navy. We look forward to future collaboration, and contribute together to the vibrancy of the supply and logistics community."

Mr Karmjit Singh, Chairman CILTS said: "The world of logistics and transport is ever-evolving, and the challenges we face today are more complex and interconnected than ever before. In this dynamic landscape, the importance of robust supply chain management and maritime operations cannot be overstated. These elements are not just critical to the success of commercial enterprises but are equally vital to the operational readiness and strategic effectiveness of our naval forces.

"Our collaboration under this MOU is a testament to our shared commitment to excellence and innovation. By leveraging the knowledge, resources and connectivity of The Chartered Institute of Logistics and Transport Singapore, we aim to provide comprehensive training and development programmes tailored specifically for officers of the RSN. New paradigms are continually developing, equipping early adopters with future readiness of real-time, dynamic supply chains and network connectivity across multiple stakeholders. Rapidly emerging technologies, such as in Digitalisation and Artificial Intelligence, are deeply transforming planning and execution. The RSN has always been at the forefront of maritime security and operational excellence. This partnership will further empower our nation's naval officers with the skills and knowledge needed to navigate the complexities of the emerging landscape", Mr Singh added.

(Standing from left) CILTS Chairman Karmjit Singh and RSN Head Naval Engineering and Logistics ME7 Khoo Koh Giok with (seated from left) CILTS Honorary Secretary Ivan Neo and RSN Head Supply & Industry Group ME7 Tan Lu Pin

RSN leadership and CILTS Board Directors at the MOU signing ceremony

CILTS Chairman Karmjit Singh
addressing the audience

RSN Head Naval Engineering and Logistics
ME7 Khoo Koh Giok
making the welcome speech at the event

SEE THE BUZZ:
CILTS, Members & Friends

WORLDSKILLS LYON 2024

Temasek Polytechnic Student Wins Gold in Logistics & Freight Forwarding

The 2024 WorldSkills Competition, often dubbed the "Olympics of Skills," serves as a global stage for showcasing vocational excellence, and Singapore's talented students continued to deliver outstanding performances.

Held in Lyon, France, the prestigious event attracted over 1,400 skilled participants from around the world, each vying for recognition in their respective fields. **CILT Singapore warmly congratulates Temasek Polytechnic for the outstanding performance of Werrill Wong Wee, a senior-year student from Temasek Polytechnic for winning one of the two gold medals clinched by Singapore.** Werrill's journey into the world of vocational training began with passionate encouragement from his lecturers. Werrill's determination paid off, leading him to secure a joint Gold Medal alongside a competitor from China.

Werrill celebrating his well-deserved win

Werrill's gold medal win is Singapore's fourth consecutive medal in the skills area of Logistics & Freight Forwarding in the global competition series.

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COURSE FEES PER SCPD MODULE

Additionally, NTUC members are eligible for Union Training Assistance Programme (UTAP) funding.

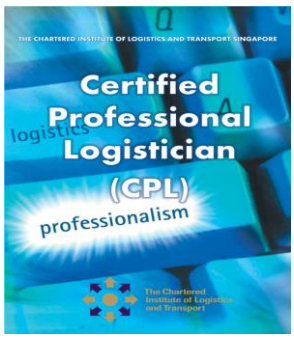
PROGRAMME STRUCTURE

The CILTS Supply Chain Professional Development (SCPD) Programme comprises two levels, the **Advanced Professional Certificate** (four modules: SCPD05-08) and the **Professional Certificate** (four modules: SCPD01-04). The SCPD modules, progressively updated to keep abreast of advancements in the industry, have a substantial fit with the Skills Framework for Logistics published by *SkillsFuture*, a Singapore Government initiative and the Key Knowledge Areas published by CILT International.

The syllabus for the Advanced Professional Certificate level also addresses the knowledge competency for the **Certified Professional Logistician (CPL)** certification, which is exclusively awarded by CILT Singapore. CPL candidates taking the four advanced SCPD modules shall proceed to sit for the CPL Examination upon meeting eligibility conditions of work experience and qualifications. Successful candidates shall be awarded the CPL certificate.

Click on image for more information:

Enrol for SCPD



Certified Professional Logistician (CPL)

SCPD modules

CPL RENEWAL
Successful completion of an SCPD module is accepted as proof of Continuous Professional Development for CPL renewal.

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$12,500 to $25,000 *Monthly*

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Workplace Safety & Health

CILTS Board Director for Corporate Membership, Mr Eddie Sng, Supply Chain Consultant and former Managing Director of Agility International Logistics, shares his thoughts and perspectives on Workplace Safety and Health (WSH).

Much has been said about workplace safety (security) and health, otherwise also known as WSH. Even while every company operating in Singapore is required by law to provide a safe, secure and healthy workplace, many still go through the motion. Providing a safe environment is not only morally and ethically critical it also promotes good morale amongst staff members and boost margins in the longer run.

Having said that, it is critical that leaders take a keen effort to adopt and promote WSH and not delegate that down line. So, what should leaders do?

1. **Walk the ground and observe** - any effective leader is also a practitioner and walks the ground regularly. Only by walking the ground can you see, feel and interact with your colleagues and solicit feedback. You need to be observant about your operating environment and you can only achieve it by walking the ground regularly.

2. **Catch them doing something right** - it's not always the case of catching them doing something wrong. Try to spot good practices and acknowledge them. Remind them when they do something wrong and seek their cooperation in providing the solution. Rewards and penalties go hand in hand. Don't be afraid to reward good behaviour.

3. **Conduct regular interaction with ground staff** - as with many logistics functions much of the work is done outside of the workplace. Take an interest to visit some of these places to understand the process and practicalities. This will show the staff that you value them enough in trying to understand their operating environment and they will reciprocate

4. **Safety practices must be applied across the board** - no half measures and no double standards. When a near-miss incident is reported, take it seriously and use that incident to remind everyone else.

5. **Provide the necessary equipment** - safety vests, safety shoes, proper equipment etc. are all necessary in providing a safe and secure environment. Often overlooked is equipment maintenance which may result in injuries when the equipment malfunctions.

6. **Safety and security is top down** - lead by example. When you as the leader walk the ground, the same rules apply i.e. You need to wear safety vest, safety shoes and if there

are prescribed walking paths you have to take those too.

7. **Involve the workers in providing a safe working environment** through adopting their suggestions and showing them the cost of non-compliance - injuries and work stoppage can have very drastic impact on both workers and companies. In extreme circumstances, bodily injuries, loss of limb or loss of life would be tragic. But not just the cost in dollar terms but also the intangible cost in the event of non-compliance or an accident.

8. **Complacency** - get rid of complacency. For one who works in the environment everyday, the sound of forklift reversing and the reverse sensor beeping becomes desensitised to the warning. That's when accidents may happen when complacency creeps in. Leaders have to root that out.

The Singapore government has done the right thing establishing The Executive WSH Program (TEWP). The legislation will take to task the company's top leadership should they fail to provide a safe and healthy work environment. All top executives of companies earmarked are mandated to complete a course failing which they will be taken to task. Secondly, any infringement will be investigated and the executive be held responsible unless he/she can prove otherwise. A move in the right direction.

Most leaders and managers want an accident-free working environment but lack the resolve to want to do a good job. They think it, but don't do it. Commercial considerations always come first but that is a very shortsighted approach. Seriously put WSH on the top of your agenda. It will yield dividends in the longer run.

Shipping / Maritime Webinar Series 2023/24

Bringing You the Latest Trends and Developments

From August 2023 to May 2024, CILT Singapore showcased a Shipping/Maritime webinar series that brought to logistics and transport professionals the latest insights and commentaries on the developments and trends sweeping the shipping and maritime industry in the local and global arenas.

The 3 webinars in the series also served as a platform for the exchange of ideas, practices and knowledge between the public and private sectors in the industry. Guest speakers from the Government sectors and industry shared their views and insights on the current and emerging challenges and opportunities in the industry.

The 3 webinars

CILTS Shipping/Maritime Webinars e-Book

Click on image to download e-book

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Singapore Navy launches fourth Invincible-class submarine

The Republic of Singapore Navy (RSN) has launched its fourth Invincible-class submarine named Inimitable, which is designed for operations in Singapore's waters.

In December 2022, the RSN launched the second and third of its new Invincible-class submarines, named Impeccable and Illustrious. The first - Invincible - was launched in 2019.

The Invincible-class submarines are customised for operations in Singapore's shallow and busy tropical workers. They were conceptualised and engineered by the RSN, the Defence Science and Technology Agency (DSTA) and thyssenkrupp Marine Systems (tkMS), the submarine manufacturer in Germany.

Possessing longer endurance and higher payloads, the launch of the fourth submarine marks the “key milestone” in the navy’s modernisation journey, the Ministry of Defence (MINDEF) said in a news release.

Following the launch, Inimitable will undergo a series of sea trials before delivery to Singapore.

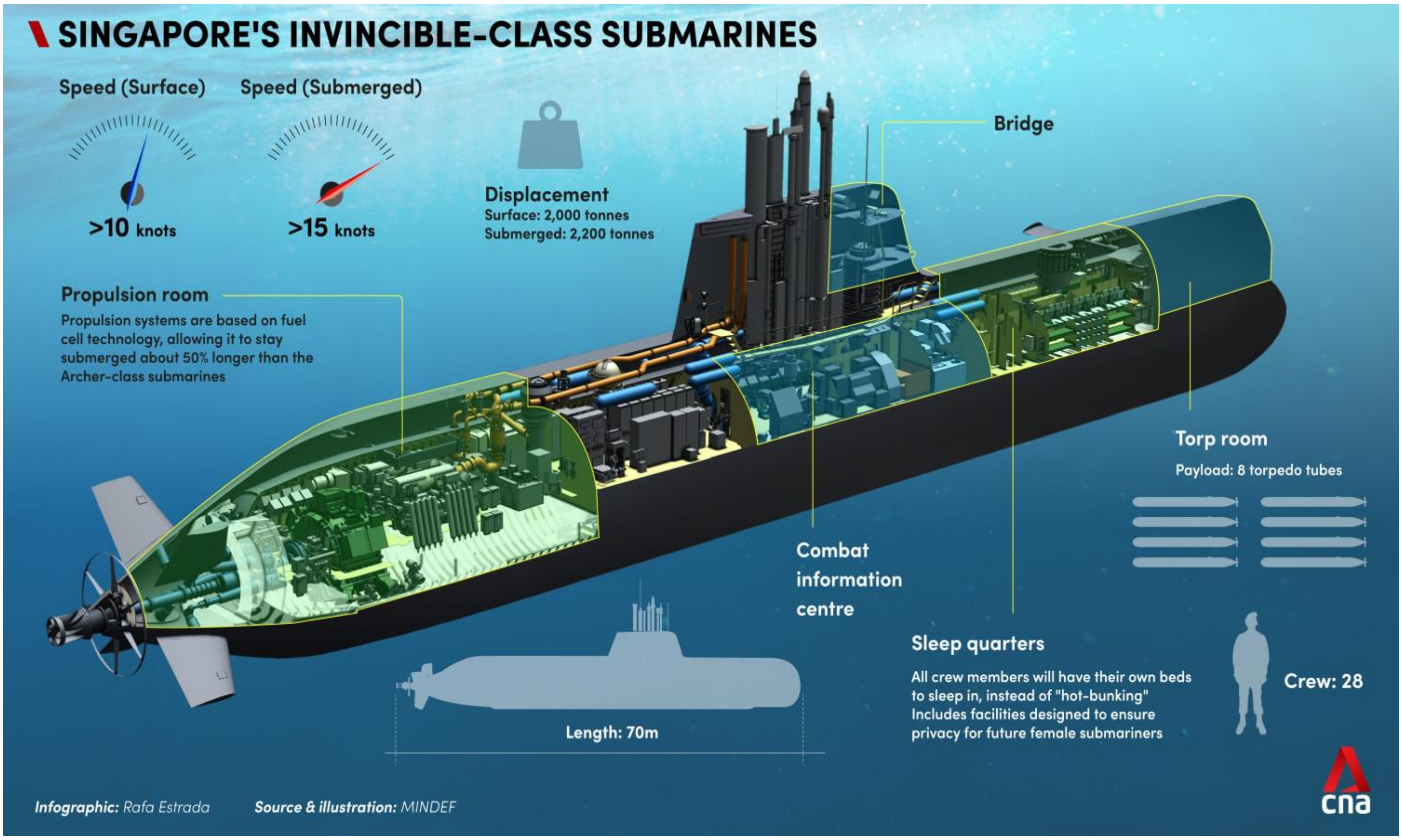
Impeccable returned to Singapore last year and is undergoing a series of local sea trials before working up towards “full operationalisation and it’s commissioning later this year", added the ministry.

WHAT ARE THE INVINCIBLE-CLASS SUBMARINES?

Designed for operations in Singapore's shallow and busy tropical waters, the Invincible-class submarine features an X-shaped stern rudder for more precise manoeuvres, and propulsion systems based on fuel cell technology.

This allows it to stay submerged for about 50 per cent longer than the Archer-class submarines.

The 70m-long submarine also has a higher payload of eight torpedo tubes, and can travel at a surface speed of more than 10 knots - about 19kmh - or more than 15 knots when submerged.



Each boat is manned by a crew of 28, and built with customised operator consoles to suit the smaller frames of RSN personnel.

All crew members also have their own beds to sleep in, as opposed to the "hot bunking" practice of having those on different watches share the same bed. There will also be spare beds to accommodate additional personnel.

Each bunk will have a media entertainment system similar to those found on commercial planes.

Unlike the current Archer-class and Challenger-class submarines, which require crew to go through common spaces to get to the showers, the Invincible-class submarines include ensuite facilities to ensure privacy for future female submariners on board.

"DIGITAL TWIN"

A training suite for crew members of the new Invincible-class submarines will also be operationalised by 2024.

It will help hone team combat competencies and let the crew practise steering and diving procedures among others.

A virtual procedural trainer is also part of the suite. During a media demonstration, reporters were shown how this allows crew members to familiarise themselves with the submarine's layout without physically stepping into one.

“What we have, essentially, is a digital twin of the submarine right next to actual training of procedures, operations as well as the maintenance of systems,” said Commander of the 7th Flotilla, Colonel (COL) Fong Chi Onn.

“This trainer provides the actual physical and tactile hands-on opportunities for critical platform training in a safe environment ashore, without having to go on board."

SHIP KILLERS

This stealth is what makes the Type 218SG so lethal, as RADM Cheong spoke in broad terms about how the submarines fit into RSN’s overall strategy.

“All over the world, submarines are what we call strategic capabilities,” he said. “Because they are stealthy, can go to a lot of places and deliver a very impactful strike. So, most navies will use the submarine to deliver these effects.”

Technical specifications of the Type 218SG submarine.

Besides hunting ships, submarines can do surveillance, deliver special forces, unmanned underwater vehicles and high-end weapons like nuclear missiles. Nevertheless, RADM Cheong said a good submariner can remain undetected if he knows where to position the vessel in relation to how sound waves travel underwater. "If he exploits all these black holes underwater, nobody can hear him and he can hear everybody else," he added. "He can be quite silent and maybe even invisible."

For the Type 218SG, RSN's submariners will train in simulators and abroad with their German counterparts, who RADM Cheong described as some of the best in the world. "They like to have a worthy partner to spar with," he said. "We also take this opportunity to learn from them."

Watch the Singapore TKMS 218SG Submarine and Navy crew training

READ MORE: RSN's first two Invincible-class submarines are now fully operational

SOURCE Channel News Asia

TARGETING NAVAL EXCELLENCE

Issues, Challenges & Opportunities

Listen to this article 6 min

The pursuit of naval excellence is a multifaceted endeavour that involves addressing contemporary and future issues, challenges and opportunities.

This report explores these dimensions, with a focus on the impact of technology and sustainability on naval forces. The discussion encompasses strategic, operational and logistical aspects, highlighting how advancements and environmental considerations shape the future of naval excellence.

Contemporary Issues and Challenges

1. Geopolitical Tensions and Strategic Competition

- **Rising Powers:** The emergence of China as a major maritime power and Russia's naval resurgence poses significant challenges. These developments necessitate a strategic recalibration to maintain maritime resilience.
- **Regional Conflicts:** Ongoing regional disputes, such as those in the South China Sea, require navies to be prepared for potential confrontations and to ensure freedom of navigation.

2. Budget Constraints and Resource Allocation

- **Funding Limitations:** Navies often face budget constraints that impact shipbuilding, maintenance, and modernization efforts. Balancing resource allocation between current operational needs and future capabilities is a persistent challenge.
- **Cost Overruns:** Projects like the Ford-class carriers have experienced significant delays and cost overruns, highlighting the need for better project management and cost control.

3. Technological Advancements

- **Cybersecurity Threats:** The increasing reliance on digital systems makes navies vulnerable to cyberattacks. Ensuring robust cybersecurity measures is crucial for protecting sensitive information and maintaining operational integrity.
- **Unmanned Systems:** The integration of unmanned aerial, surface and underwater vehicles presents both opportunities and challenges. These systems enhance surveillance and operational capabilities but require new doctrines and training.

4. Logistical and Supply Chain Challenges

- **Global Supply Chains:** The complexity of global supply chains can impact the timely delivery of essential components and supplies. Ensuring logistical resilience is vital for sustained naval operations.
- **Maintenance and Repair:** Ageing fleets require extensive maintenance, which can strain resources and impact readiness. Developing efficient maintenance protocols and leveraging predictive maintenance technologies are essential.

Future Issues and Challenges

1. Climate Change and Environmental Impact

- **Rising Sea Levels:** Naval bases and infrastructure are vulnerable to rising sea levels and extreme weather events. Adapting infrastructure to withstand these changes is critical for operational continuity.

- **Sustainable Operations:** Reducing the environmental footprint of naval operations through the adoption of green technologies and sustainable practices is becoming increasingly important.

2. Technological Innovation and Integration

- **Artificial Intelligence (AI):** AI has the potential to revolutionise naval operations by enhancing decision-making, predictive maintenance and autonomous systems. However, integrating AI requires addressing ethical, operational and security concerns.
- **Quantum Computing:** The advent of quantum computing could significantly impact cryptography and secure communications. Navies must prepare for both the opportunities and threats posed by this technology.

3. Human Capital and Training

- **Skill Development:** The rapid pace of technological change necessitates continuous skill development and training for naval personnel. Investing in education and training programmes is essential for maintaining a technologically proficient workforce.
- **Recruitment and Retention:** Attracting and retaining skilled personnel in a competitive job market is a challenge. Offering career development opportunities and addressing quality-of-life issues are key strategies.

Opportunities for Achieving Excellence

1. Innovation and Research

- **Collaborative Research:** Partnering with academic institutions, industry and allied navies can drive innovation and accelerate the development of cutting-edge technologies. Collaborative research initiatives can address common challenges and share best practices.
- **Testbeds and Prototyping:** Establishing testbeds for new technologies and prototyping innovative solutions can expedite their deployment and integration into naval operations.

2. Sustainability Initiatives

- **Green Technologies:** Investing in renewable energy sources, such as biofuels and solar power, can reduce the environmental impact of naval operations. Implementing energy-efficient systems and practices can also enhance operational sustainability.
- **Climate Resilience:** Developing climate-resilient infrastructure and incorporating climate considerations into strategic planning can mitigate the risks posed by environmental changes.

3. Strategic Partnerships and Alliances

- **Allied Cooperation:** Strengthening alliances and partnerships with other navies can enhance collective security and operational capabilities. Joint exercises, information sharing and coordinated responses to global challenges are vital components of these partnerships.
- **Regional Engagement:** Engaging with regional partners through diplomatic and military channels can promote stability and address shared security concerns.

Achieving naval excellence requires addressing a complex array of contemporary and future issues, challenges and opportunities.

The impact of technology and sustainability on naval forces is profound, shaping strategic, operational and logistical dimensions. By embracing innovation, fostering sustainability and strengthening partnerships, navies can navigate the evolving security landscape and maintain maritime resilience in the 21st century.

References:

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SUBMARINE HUNTER, RECON LEADER

What a naval mothership & its unmanned systems can do

The mothership concept allows a navy to deploy a warship that plays multiple roles through different unmanned systems

The action starts far away, some 100km from the mothership. The enemy does not see the unmanned aerial vehicle (UAV) loitering high in the sky, let alone the mothership itself.

But the UAV sees the enemy. Its high-definition, high-zoom cameras – powerful enough to see the features on your face – easily identify the enemy: A hostile speedboat carrying armed men.

The images are quickly transmitted to the mothership. Inside its command centre, an operator dispatches yet another robotic weapon: A missile-equipped unmanned surface vessel (USV) slips out from the side of the ship.

The USV charges forward and tracks the enemy. The speedboat doesn't get close – not within 10km of the mothership – when the USV locks on and destroys it.

This is how a combat scenario could play out when a mothership works with a team of unmanned boats and drones, making it possible for navies to see earlier and strike faster.

The first Multirole Combat Vessel (MRCV) will be delivered around 2025, with full delivery expected by 2030.

Additional reading: **Singapore cuts steel on its first Multirole Combat Vessel (MRCV)**

The mothership concept is not new. The US Special Operations Command has deployed a mothership that can carry massive loads of military platforms, supplies and gear, while the UK Royal Navy is developing multi-role ships capable of conducting a variety of operations, including crisis support and warfighting.

UNMANNED SURFACE VESSEL

One USV that could be paired with a mothership is ST Engineering's Venus 16. The RSN has tested the Venus 16 from as early as 2015, when it was used during a maritime exercise to chase suspicious vessels.

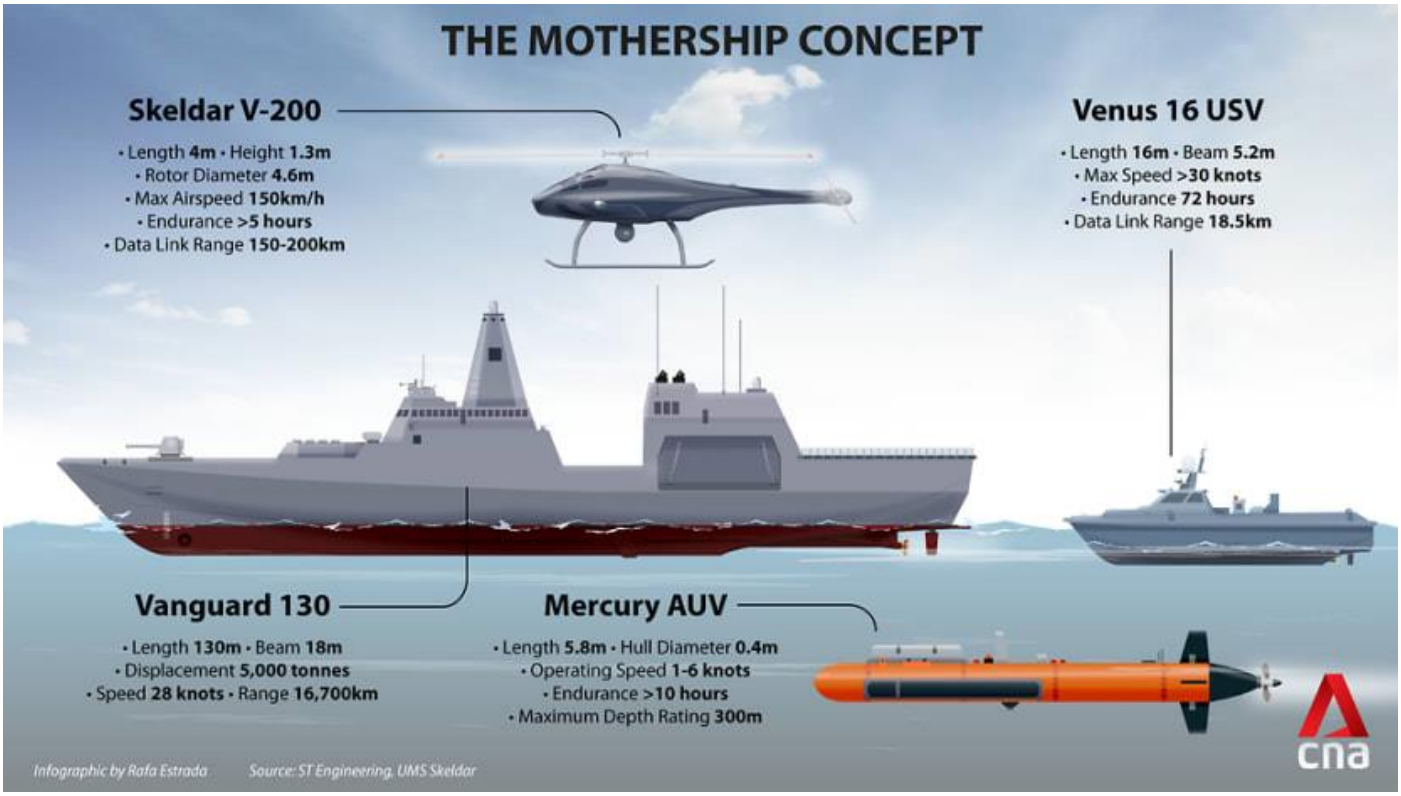
MINDEF also revealed that the RSN was developing three types of USVs to counter mines and conduct coastal patrols. In the latter role, the USVs will eventually replace RSN's littoral mission vessels, allowing the ships to be deployed farther and more strategically for complex missions.

The RSN is developing three unmanned surface vessels that can perform their tasks "at much lower cost and with less manpower" than manned platforms:

	 Artist Impression		
Function	Coastal patrol	Detection of mines	Neutralisation of mines
Length	Approximately 16 metres	16 metres	16 metres
Beam	Approximately 5 metres	5 metres	5 metres
Weight/ Displacement	Approximately 30 tonnes	30 tonnes	30 tonnes
Speed	> 25 knots	> 25 knots	> 25 knots
Endurance	> 36 hours	> 36 hours	> 36 hours
Operators (when operating remotely)	2	2	2
Equipment	• Strobe Light & Siren • Advanced Sensors and Weapons Systems • Navigation Radar • Global Positioning System	• Towed Synthetic Aperture Sonar • Automatic Launch and Recovery System • Navigation Radar • Global Positioning System	• Expendable Mine Disposable System • Automatic Launch and Recovery System • Navigation Radar • Global Positioning System

The Venus 16 unmanned surface vessel helps "reduce risk exposure for soldiers and improve manpower efficiency"

The Venus 16 can also be used for patrols and search and rescue. Operators can plot a circuit and go hands off as the boat automatically plies the route and avoids obstacles, all while using day and night cameras to send information back to the mothership.



The various unmanned boats and drones that could potentially fit in a mothership system.

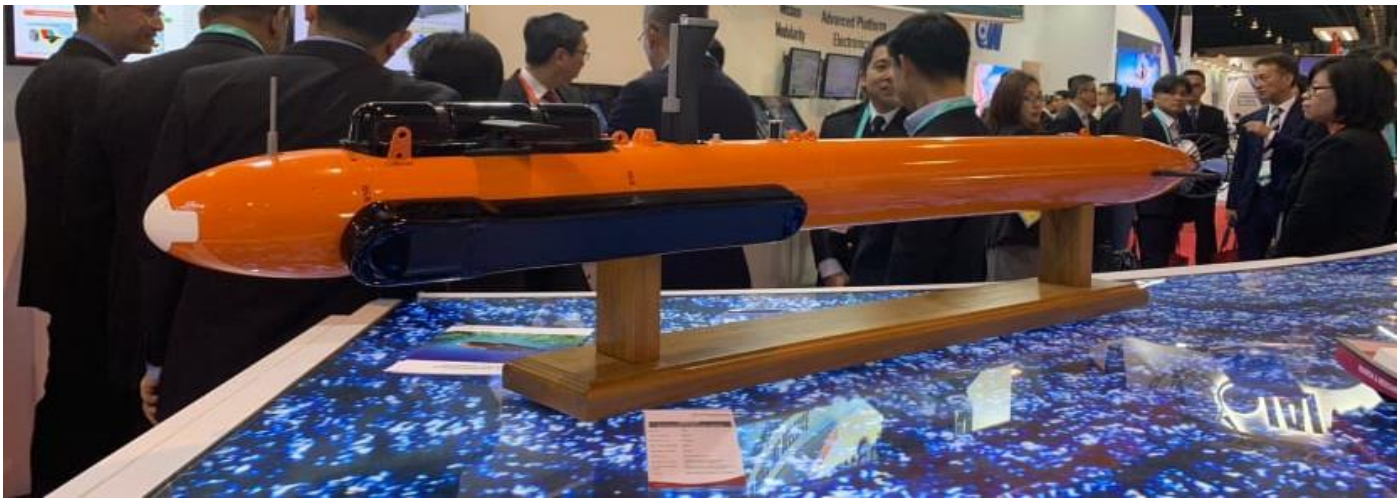
When the Venus 16 is in open sea and there's not enough communication bandwidth to send huge amounts of imaging data, its sensors can choose to only relay basic identification data, like the shape of a structure or the type of a ship.

Back at the mothership's command centre, a visualisation engine will use the data to reconstruct 3D video showing what's around the Venus 16. This lets operators see buildings on shore or a warship passing by, allowing them to maintain situational awareness.

AUTONOMOUS UNDERWATER VEHICLE

With the sea surface covered, the attention now turns to the sub-surface.

One possible unmanned underwater system for a mothership is ST Engineering's Mercury autonomous underwater vehicle (AUV), designed to scan the seabed for mines.



The Mercury autonomous underwater vehicle can carry high-frequency and dual-frequency synthetic aperture sonars.

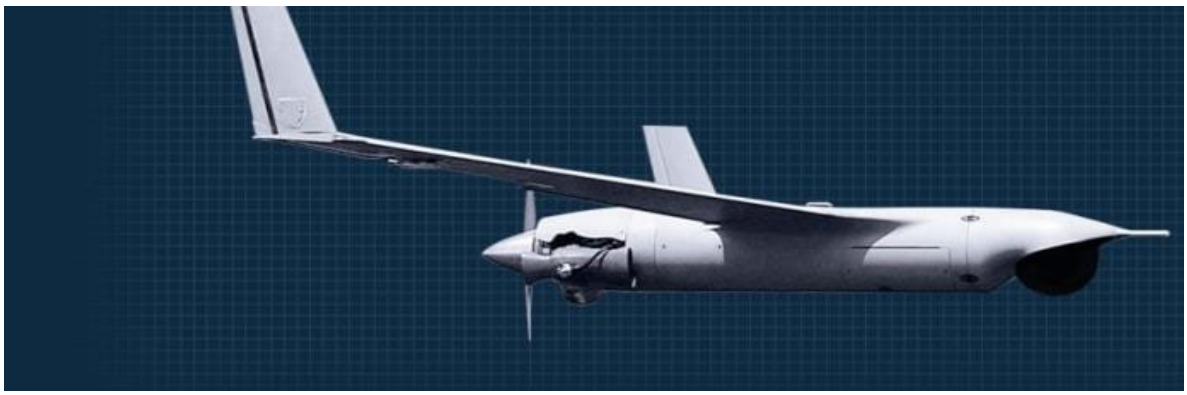
With its integrated sensors, the Mercury can navigate and detect mines in congested waters better than mine-countering USVs, which move with a sonar in tow. The Mercury is also designed for shallower waters, where currents are stronger and mines are usually deployed.

Besides countering mines, the Mercury can be used for harbour security as well as search and salvage operations. Future applications include anti-submarine warfare.

The Mercury's intentionally small diameter also allows it to fit common ship configurations and be deployed from any ship with a one-tonne crane. Launch and recovery is remotely driven using a portable 10-inch tablet.

UNMANNED AERIAL VEHICLE

When it comes to pairing motherships with UAVs, the RSN has already done so with its missile corvette and ScanEagle, effectively extending the ship's vision by about 100km.



Three of the RSN's missile corvettes are equipped with ScanEagles.

THE MOTHERSHIP

And then there's the mothership itself.

ST Engineering has unveiled its Vanguard 130, a multi-role warship capable of deploying a wide array of unmanned systems like the USV, AUV and UAV.

Compared to modern frigates, the Vanguard 130 can operate with a significant reduction in manpower. The ship can carry two Venus 16 USVs, two Mercury AUVs and two ScanEagle UAVs. It also has a mission bay capable of holding smaller USVs and manned boats.

USVs and AUVs can be deployed from flushed doors on the side or a ramp at the rear, while UAVs can vertically take-off or be launched from a helipad on the aft deck.

The Vanguard 130 is a multi-role combatant capable of deploying unmanned systems and weapons like surface-to-air missiles, anti-ship missiles and torpedo launchers.

The ship can use all-dimensional weapons to deal with threats from the sea, air and underwater. The Vanguard 130 will also use a phased array radar which doesn't spin like conventional radars, eliminating moving parts and reducing maintenance costs.

SOURCE	Channel News Asia

SINGAPORE NAVY MUSEUM

The Singapore Navy Museum brings the visitor through Singapore's maritime heritage, and highlights how the Republic of Singapore Navy (RSN) has grown together with our maritime nation, and the critical role it plays in keeping our waters safe and secure. The museum stands as a heartfelt and fitting tribute to the invaluable contributions of generations of men and women of the Singapore Navy.

The revitalised museum adopts the central theme of '**Maritime Force for a Maritime Nation'**, and showcases the RSN's historical and contemporary milestones, set against the backdrop of Singapore's development over the years. Visitors will be brought back in time to understand the importance of the seas to Singapore, and witness the evolution of the RSN, from its early days to the present, as well as a peek into the future. This immersive journey celebrates the heritage, ethos and unwavering spirit that have shaped the RSN's enduring legacy.

Opening Hours

Mon to Fri | 12pm to 5pm (Last entry at 4.30pm)
PH, Sat and Sun | 10am to 3pm (Last entry at 2.30pm)
Closed every Tue
Special arrangements for school visits and events

Click HERE to visit the Singapore Navy Museum online

HUMANITARIAN LOGISTICS

SAF Delivers Aid to Vietnam, Myanmar, Laos

RSAF personnel unloading the humanitarian aid supplies from the C-130 transport plane in Vientiane

The Singapore Armed Forces (SAF) on Sept 20 completed its delivery of humanitarian aid supplies to Vietnam, Myanmar and Laos, three of its fellow ASEAN countries that are still recovering from Typhoon Yagi-triggered destruction.

Three of the Republic of Singapore Air Force's (RSAF) aircraft – an A330 Multi-Role Tanker Transport and two C-130 transport planes – flew 12 sorties to complete the deliveries from Sept 18 to 20.

Around 35 tonnes of supplies were sent by the RSAF to the three countries, with the SAF's Changi Regional Humanitarian Assistance and Disaster Relief Coordination Centre (RHCC) gathering a total of 20 tonnes from SAF's own stockpile and various local non-governmental organisations (NGOs), including Humanity Matters and the Singapore Red Cross.

SOURCE	The Straits Times

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Generative AI & Upcoming Challenges for Maritime Manpower

One of the key topics that keeps coming up in my conversations with maritime executives is whether artificial intelligence (AI), particularly generative AI, will take over their jobs.

The questions range from the tentative: "How will generative AI impact future jobs in maritime," to the more desperate "will there even be any jobs at all?".

These are natural questions to ask. After all, since it was launched just a couple of years ago generative AI, led by OpenAI and its ChatGPT, has stormed the world.

And while people are comfortable with using generative AI to write a funny song, or to create email greetings, many are still uncertain about how the technology will hurt the prospects of future jobs.

Here's what I think: like any era-defining technology, there will be a restructuring of jobs, companies, and even economies. For instance, industrialisation revolutionised the agrarian society. Millions of jobs were lost, but millions of jobs were also created.

Generative AI will do the same. Let me explain, drawing on my experience as a Global Vice President of the Institute of Chartered Shipbrokers as well as my various roles in technology companies.

Generative AI is essentially a technological tool, which is used to support the decision-making process. Tools, by definition, do not make the decisions. Nobody asks a hammer which nail to use. This is an important distinction.

A machine can process information, create scenarios, provide alternatives, analyse the past, assess the present and aim to predict the future. But it cannot read the facial expression of your counterparty, laugh over the result of last night's football game, negotiate a clause with passion and purpose, and finally have a cold beer with your customer and build a relationship.

As generative AI becomes more pervasive, we will all need to adapt to a new way of working with robots. All decisions need a "Three as Framework" in place and these three need to be executed in the right order.

First A is **Awareness**. To become aware of the problem means asking the right questions – a lot of which are based on subjective knowledge. You can get access to ChatGPT but if you don't know what questions to ask it, you will never get the right answer.

Second A is **Assessment**. Generative AI can create multiple scenarios, pull out historical data, and find comparable benchmarks, but it is your own experience and knowledge to contextualise the information provided.

The user's unique blend of experience and knowledge is what helps to choose the applicable scenarios, understand the nuances of the historical data, and pick the most applicable benchmark. We have seen on multiple occasions that the same vessel carrying the same cargo into the same port at the same time of the year faces a different challenge each year. This is where the subjective and objective aspects blend in to provide the required assessment that only a human can do.

Final A is **Action**. This is where the subjective aspects take over most of the task from the objective aspect. The key ability to take the action, execute it efficiently, and learn from experience for future dealings are all individual-driven actions.

Customers may tolerate AI chats, but no one particularly enjoys talking to a bot. Interactions with stakeholders including customers cannot be machine-centric; every conversation must imbibe the personal touch, which only humans can genuinely provide. Where technology can step in is to monitor that action and its implications, creating actionable learnings for future.

To summarise, soft skills will be the driving factor for the jobs of the future, even in the maritime sector.

Generative AI can take on a many of impersonal and objective aspects of the job, offer unprecedented support in decision making, and provide access to unbelievable amount of data. However, it is unlikely that any company or organisation will let the machines take the final decision. This is because any decision needs a mix of objective as well as subjective aspects to be considered.

So rather than resisting change, we need to embrace this new tool at hand and incorporate it into our decision-making process. The reality is that if you do not, others will.

Written by: Punit Oza

Punit Oza has over 30 years of experience in Maritime Sector, with a focus on Commercial Shipping & Digital Transformation. He is one of the Maritime Digitalization Playbook Ambassador in Singapore, Founder of Maritime NXT & the International Vice president of Institute of Chartered Shipbrokers.

Listen to this article 2 min

NATO unveils new AI strategy

The revised framework emphasises responsible AI adoption and addresses new challenges like disinformation and gender-based violence

The North Atlantic Treaty Organization (NATO) has launched an overhaul of its artificial intelligence strategy (AI), aiming to integrate technologies into its defence framework while prioritising ethical considerations. Released on July 10, 2024, the approach reflects a growing urgency to address the challenges posed by rapid AI advancements, including the risk of misinformation and the potential for gender-based violence in information operations.

The new strategy, building on its 2021 predecessor, identifies priorities that advance NATO's capabilities and ensures that the alliance remains vigilant against the misuse of AI. For the first time, the document explicitly recognises AI-enabled disinformation and related societal impacts as areas of concern, emphasising NATO's commitment to safeguarding democracy and public trust among member nations.

One aim of the revised strategy is to enhance interoperability between member states' AI systems, a move deemed essential for effective collaboration. By promoting closer ties with industry, academia, and organisations like the Defence Innovation Accelerator for the North Atlantic (DIANA), NATO intends to create an AI ecosystem that ensures adherence to the Principles of Responsible Use.

In light of the threat landscape, NATO's new framework advocates for proactive measures against the adversarial use of AI technologies. This includes increased strategic foresight and analysis to mitigate risks associated with AI deployment in military contexts.

Additionally, NATO is set to shape international norms surrounding AI usage. By engaging with allied industries and non-traditional defence suppliers, the alliance seeks to enhance its own capabilities and establish a cohesive global approach to responsible AI deployment.

This pivot signifies NATO's recognition that the future of warfare will increasingly hinge on the ethical and responsible use of technologies. As NATO embraces AI, the alliance aims to set a precedent for collective security in an age where the lines between innovation and vulnerability continue to blur.

With this revised strategy, NATO is responding to technological change; it is shaping the narrative around the responsible integration of AI into defence, ensuring that the alliance remains prepared for the challenges ahead.

SOURCE	Naval Technology

CREWLESS SHIPS

Listen to this article 5 min

Crewless ships transporting goods along coastlines, inland waterways, within cities, and even across the high seas – once a concept reserved for science fiction – are becoming a tangible reality. Far from being a distant dream, this future is now actively taking shape.

The Growing Reality of Crewless Ships

Crewless ships, also known as unmanned or autonomous vessels, are being developed and tested across the globe. These ships leverage advanced technologies like **artificial intelligence (AI)**, machine learning, and sophisticated sensor systems to navigate, avoid obstacles, and optimize routes – all without requiring onboard human crew. While fully autonomous vessels are still emerging, semi-autonomous and remotely controlled **ships** are already in operation.

Ørnulf Jan Rødseth, General Manager of the **Norwegian Forum for Autonomous Ships** (NFAS), highlighted Norway's pioneering role, noting that semi-autonomous vessels are already in use. "Since spring 2022, the world's first semi-autonomous

container ship has been transporting mineral fertilizer from the Yara production facility in Porsgrunn to the regional export port in Brevik. The ship operates autonomously but still with a minimal crew of three, remotely controlled from a dedicated center," he shared.

Marc Holstein, Head of the Remote Operation Center at **SEAFAR in Antwerp**, expanded on this, describing how SEAFAR's technology is currently deployed on over 40 vessels, primarily in inland waters, with most already functioning with reduced crews and remote control. "Three of these vessels operate on the Rhine between the Netherlands and Bonn. We've been running these systems for four years, integrating them smoothly into existing traffic flows, especially in Belgium," he explained.

Turning to developments in France, Antoon van Collie, CEO of ZULU Associates, outlined new opportunities following a regulatory breakthrough. "Since May 2024, French authorities have allowed autonomous ships to operate within their territorial waters. We're in advanced talks with the state waterway authority, VNF, aiming to launch unmanned or partially unmanned ships by next year," he said.

A Broader Shift in the Maritime Industry

Autonomous ships are part of a broader transformation in the maritime industry aimed at increasing efficiency, reducing costs, and addressing crew shortages. With the global shipping industry facing rising fuel costs, stricter environmental regulations, and the challenge of recruiting qualified seafarers, crewless vessels offer compelling advantages. Not only can they operate with fewer crew members, reducing labor costs, but they can also maintain continuous operations with minimal downtime, thanks to automated systems and remote management.

The conversation also explored the potential for autonomous vessels in urban logistics. In cities like New York, small inland vessels might soon transfer goods to cargo bikes or **electric vehicles for the last mile**, while in Paris, ZULU's hydrogen-capable vessels are already in use for urban deliveries. Van Collie suggested that similar concepts could be adopted in cities like Hamburg or Berlin.

In Norway, the food retailer ASKO has ambitious plans to move 50 truckloads per day onto the water by 2026 using two battery-powered, semi-autonomous ro-ro ships on the Oslo Fjord. “Ro-ro vessels require minimal infrastructure,” Rødseth noted, emphasizing their potential for streamlining logistics.

Addressing Safety and Operational Concerns

When asked about safety concerns, Holstein argued that remote operations could enhance safety by reducing fatigue among operators, who typically work shorter shifts than onboard crews. Autonomous vessels are equipped with advanced collision-avoidance systems and continuously monitor their surroundings, which can mitigate human error, one of the primary causes of maritime accidents. Rødseth added that automation helps reduce the strain of monotonous long-haul journeys, such as navigating the Pacific for a month straight.

The Road Ahead

While regulatory and technological hurdles remain, the momentum behind autonomous ships is undeniable. As more countries and companies invest in this technology, it is likely that crewless vessels will become a common sight on both inland waterways and the open seas within the next decade.

SOURCE	Logistics Business

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TENSIONS IN TAIWAN STRAIT

Taiwan's national security depends on a highly sought-after product

US dependence on Taiwan's microelectronics supply chain may just be the thing keeping the peace in the Taiwan Strait.

Tensions are rising in the Taiwan Strait. Chinese warplanes have been entering Taiwan's air defence identification zone on an almost daily basis.

The United States needs a viable long-term strategy for keeping the peace in the Taiwan Strait. US dependence on Taiwan and its microelectronics supply chain enhances deterrence without introducing the risks associated with strategic clarity.

TAIWAN AT HEART OF SEMICONDUCTOR TRADE

China's power is rising, but so is Taiwan's. One company, the Taiwan Semiconductor Manufacturing Company (TSMC), holds 50 per cent of the world market share in contract chip-making.

The technologies that will usher in the so-called Fourth Industrial Revolution, from 5G smartphones to autonomous vehicles and high-performance computers, will need the

chips that TSMC manufactures. That has made the United States worried about what would happen if Taiwan were to fall under Chinese control.

TSMC has responded to US concerns by agreeing to build a fabrication plant in Arizona for its cutting-edge five-nanometre process. But by the time it starts production in 2024, five nanometres won't be cutting-edge anymore.

TSMC has already developed a three-nanometre process that is expected to start production this year. Apple is the first customer in line and many others are waiting.

Given how US companies and the US military depend on TSMC, it is natural for the United States to worry about the security of its microelectronics supply chains.

What if the chips that go into 5G phones, cloud computing servers and autonomous vehicles and weapons are manufactured by a Taiwan that has been forcefully integrated into China? While this scenario is alarming, it also holds the key to long-term US strategy in the Taiwan Strait. US dependence on Taiwan is not a strategic liability – it is a strategic asset.

THE US STRATEGY OF STRATEGIC AMBIGUITY

Geoeconomic trends will enhance deterrence in the Taiwan Strait. As is well known, the United States has a long-standing policy of maintaining "strategic ambiguity", declining to clearly state whether it would intervene in Taiwan's defence in the event of a Chinese attack.

Criticism of this policy has grown, but strategic clarity has its own risks: An unambiguous commitment to Taiwan's defence would be interpreted by Beijing as a sign of eventual US support for Taiwan's independence while also encouraging future Taiwanese governments to adopt provocative policies.

Beijing may not be eager for a war, but Beijing is not bluffing. Geoeconomic trends will enhance deterrence by raising the likelihood of US intervention in Taiwan's defence without introducing the risks associated with strategic clarity. They will send a clear signal to Beijing without changing the status quo.

Critics may claim that any factor raising the likelihood of US intervention would introduce the same risks that a policy of strategic clarity would.

But would China look at US dependence on TSMC and interpret it as a sign that the United States would eventually support Taiwan's independence? Would a future Taiwanese government look at US dependence on TSMC and infer that the United States would give it cover for pushing the envelope on independence?

The United States is already dependent on TSMC, and neither of those scenarios has unfolded. Geoeconomic trends do not require the United States to adopt a new Taiwan policy. There is no need for the United States to announce a new strategic posture or a new position on Taiwan's political status.

The United States can simply maintain the one-China policy that it has maintained for decades and allow markets to do the work that political statements cannot.

US-TAIWAN ECONOMIC TIES TO GROW STRONGER

There is evidence that US policy is already moving in this direction. Taiwanese Minister without Portfolio John Deng recently expressed optimism about the prospects for an eventual US-Taiwan free trade agreement.

Earlier in February, the United States and Taiwan held their first bilateral economic dialogue under the Biden administration, during which the two sides discussed Taiwan's role in global supply chains amid a dire shortage in high-end chips for the auto industry.

These developments are consistent with the one-China policy, because it is flexible enough to allow the United States to adapt to new conditions and new opportunities.

TSMC is not the only major semiconductor company in Taiwan. MediaTek, the United Microelectronics Corporation, and a whole host of other firms have secured Taiwan's place at the centre of the semiconductor industry. And Taiwan is competitive in other high-tech industries as well: Google, Amazon and Microsoft have all announced plans to invest in Taiwan.

In her second inaugural address, Taiwanese President Tsai Ing-wen identified six core strategic industries as priorities for her government "to secure a central role in global supply chains, and make Taiwan a major base for the development of next generation technologies".

These industries include information technology and the digital economy, cybersecurity, healthcare, green and renewable energy, the defence industrial base and strategic stockpiles.

Taiwan's National Development Council has placed these industries at the centre of its 2021 to 2024 National Development Plan. Taiwan is betting on geoeconomics as the key to its future – the United States should do the same.

SOURCE	Channel News Asia

Sea Transport Industry Digital Plan

Aligned to the Sea Transport Industry Transformation Map (ITM), the **Sea Transport Industry Digital Plan (IDP)** is part of the **SMEs Go Digital** programme, which aims to make going digital simple for SMEs. The Sea Transport IDP provides a **step-by-step guide on the digital solutions local SMEs in the Sea Transport industry can adopt at each stage of their growth.**

The Infocomm Media Development Authority (IMDA), in partnership with the Maritime & Port Authority of Singapore and the industry, has jointly developed the Sea Transport IDP. The IDP will continue to be updated over time as the industry progresses and newer, more relevant technologies are introduced.

Who is it for

Local SMEs in the following sub-sectors within the Sea Transport industry:

- Bunkering
- Harbour Craft
- Ship Agency

Benefits

The IDP provides a step-by-step guide on the digital solutions to adopt at each stage of your growth. For a start, you can use the IDP to find out if your business is digital-ready.

Digital Roadmap

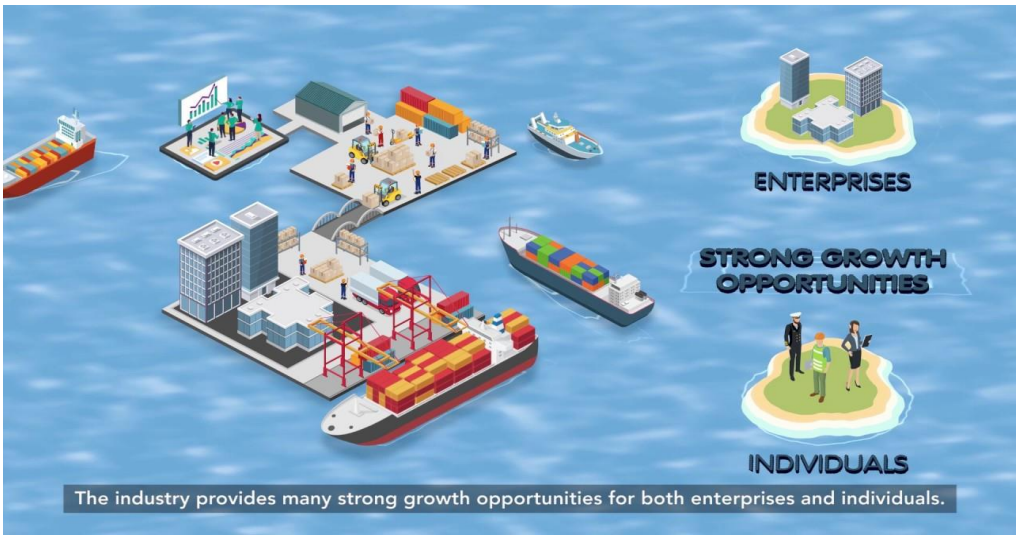
You can refer to the Digital Roadmap of the IDP, as a guide to assess your digital readiness and identify opportunities for going digital and training to raise employees' digital skills.

Downloads:

- Sea Transport IDP (Bunkering)
- Sea Transport IDP (Harbour Craft)
- Sea Transport IDP (Ship Agency)
- Sea Transport IDP Factsheet (Bunkering)
- Sea Transport IDP Factsheet (Harbour Craft and Ship Agency)
- Understand Your Digital Readiness

Click on image to watch video

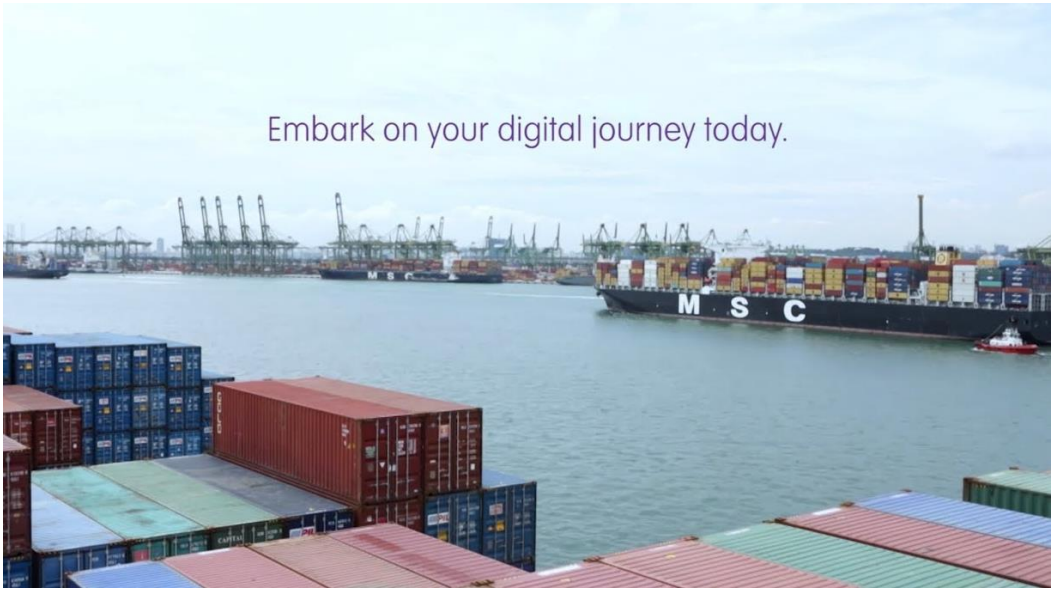
Sea Transport Industry Digital Plan for Bunkering sub-sector



Sea Transport Industry Digital Plan for Harbour Craft sub-sector

Riding the digital wave in the Harbour Craft sub-sector

Sea Transport Industry Digital Plan for Ship Agency sub-sector



FinSteering digital transformation in the Ship Agency sub-sector

Pre-approved Solutions with Grant Support

The Sea Transport IDP outlines the digital solutions that companies can adopt at each stage of their growth to streamline operations, improve efficiency, and drive business growth.

Eligible SMEs can receive funding support from the Productivity Solutions Grant (PSG) or other relevant grants on the Business Grants Portal to implement digital solutions in the Sea Transport IDP.

SOURCE	IMDA

Listen to this article 6 min

Decarbonising Shipping: All Hands on Deck

An industry perspective on reducing carbon emissions in shipping

Decarbonization has become a global imperative and a priority for governments, companies and society at large. This paper brings together stakeholder perspectives, new insights and research on the progress on decarbonization in the shipping sector in an updated report, All Hands on Deck 2.0. This report helps provide a 'temperature check' across the sector on progress since the first report was published in 2020, and augments the 12 original solutions with near-term actions that can accelerate decarbonization.

Decarbonization

Decarbonization requires transformational change across the sector, leadership, and the involvement of multiple stakeholders. Although change is happening, and the focus on decarbonization has increased across governments, companies and society at large, there is growing consensus that more should be done across sectors to reach net-zero by 2050. The shipping sector has a unique role to play as the backbone of global trade, it is not only a sector that should decarbonize, but is also an enabler of global decarbonization through the transportation of low-carbon fuels.

A push toward action

The first report on decarbonizing shipping, All Hands on Deck, published in 2020, revealed the barriers to, and readiness factors for, decarbonization. It highlighted 12 solutions toward decarbonization by 2030 and offered a longer-term view on other changes that may be required. This updated report, All Hands on Deck 2.0, helps serve as a refresher or "temperature check" across the sector, to assess the prevailing views, sentiments, and concerns in the industry. It helps provide a high-level overview of progress since the publication of the first report, and adopts a nearer-term view, to emphasize a selection of specific, more immediate actions that should enhance the solutions originally identified, what should happen right now, and who should do it.
To develop this update, Deloitte Netherlands and Deloitte UK re-engaged more than 25 leaders across segments of the shipping sector to share their perspectives on the decarbonization challenge. This update also draws on research and analysis that gives depth to the perspectives shared.

Shipping's progress in decarbonization

Despite the complexity of decarbonization in shipping, some pockets of progress have been seen in the past two to three years since the launch of the first report. Market and customer demand for alternative fuels has grown in some shipping segments, with most signs of voluntary demand coming from the customer-facing (B2C) container segment, where the potential to exact a "green premium" from cargo owners is greatest.

Regulatory incentives have become more concrete, for example through two IMO-led measures for design and efficiency: the Energy Efficiency Existing Ship Index (EEXI) and Carbon Intensity Index (CII), both of which became effective on 1 January 2023. Technology alignment has improved, as the growing maturity of alternative fuel technologies, and clarity on their development timescales, are starting to drive greater clarity on the likely set of dominant fuel pathways for different deep-sea segments. Finally, there is positive movement on asset replacement as demand for vessels that are capable of using lower-carbon alternative fuels such as liquefied natural gas (LNG) and methanol has increased significantly in the past two years.

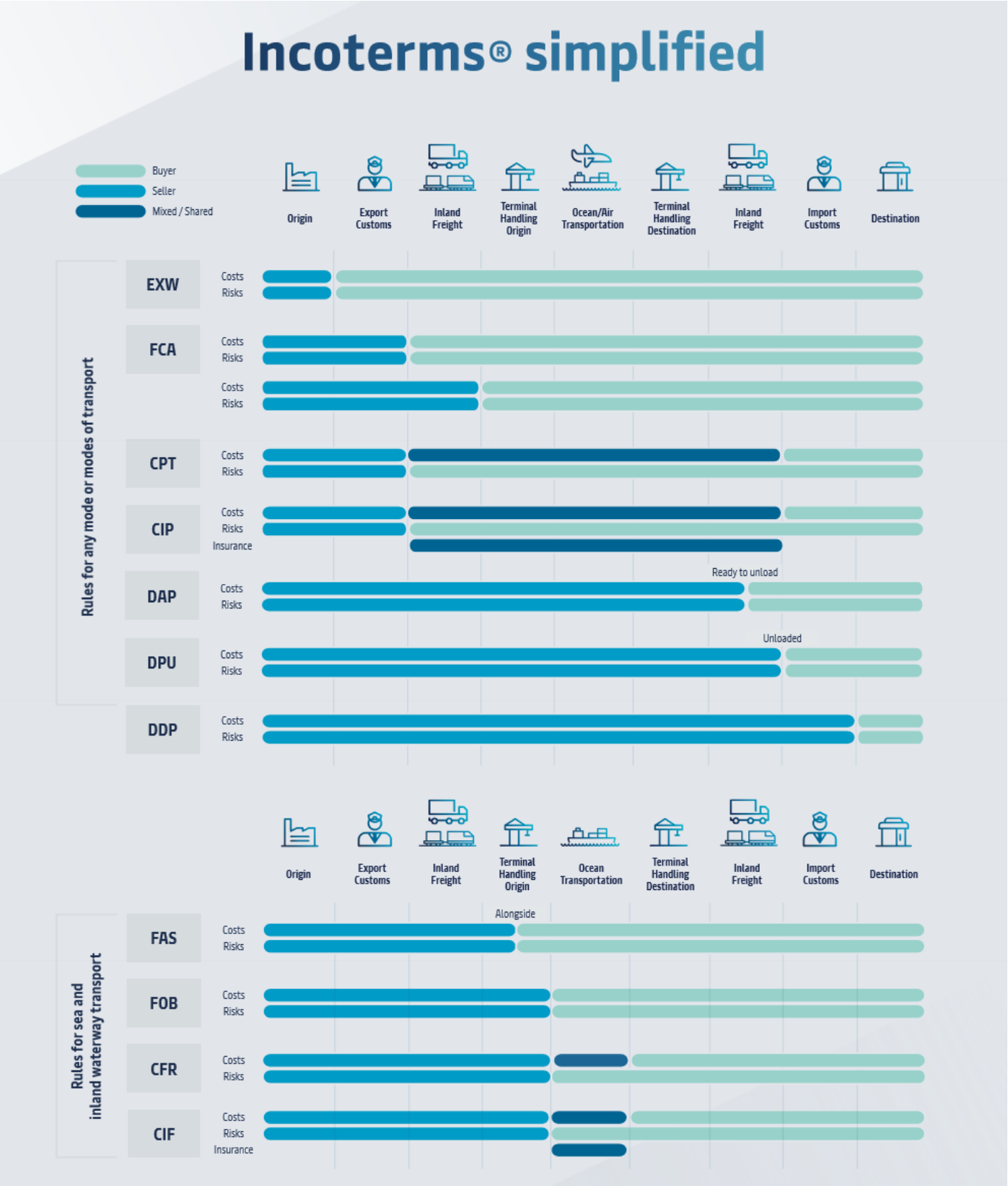
These results are encouraging, but not yet at sufficient scale. The magnitude of action and investment should step up with speed if the shipping sector is to make meaningful progress toward the ambition articulated by many countries and companies across the globe to achieve net-zero by 2050. All Hands on Deck 2.0 highlights six critical recommendations that complement the 12 solutions originally proposed.

These solutions are:

1. **Scale up pockets of demand for low carbon-solutions** through joint-purchasing coalitions, grouping of long-term contracts, and book-and-claim models to aggregate signals across segments.
2. Take a **segment-specific approach to decarbonization**, to enable prioritization and tailoring of solutions to serve segment-specific needs, rather than considering deep-sea shipping as one homogeneous segment.
3. Leverage **local/regional regulation for momentum and near-term impact**, while working toward a level playing field through global regulation.
4. **Drive clarity on fuel pathways**, building on the deeper understanding of fuel technologies and segment needs achieved over the past two years, and shift toward increasing demonstration projects to support decision-making for fuel suppliers and shipowners.
5. Adopt an **integrated view on asset improvement, by deploying an integrated set of levers** including efficiency measures, increased investment in dual-fuel-capable vessels, and faster conversion and increased modularity via retrofits, as well as helping to **ensure sufficient new build and repair-yard capacity** to undertake these changes.
6. **Activate green corridors** to create concrete proof points in specific geographies that can be scaled for inter-regional impact.

SOURCE	Deloitte

READ MORE	Decarbonising Shipping



SOURCE | Twill

VIDEO / AUDIO RESOURCES

In this episode of DNV's Singapore Decarbonization Insights, we sit down with Linda Hoon, Independent Director and ESG Committee Chairman at Tru-Marine, as she discusses the company's ESG journey as an SME and their collaboration with DNV's Centre of Excellence for Maritime Decarbonization and Smart Shipping, Asia Pacific.

Watch the interview to find out how Tru-Marine has capitalized on the tailored ESG roadmap developed by DNV to enhance operational efficiencies and the importance of sustainability in creating a competitive advantage for SMEs - all while contributing to the maritime industry's decarbonization efforts!

WATCH THE INTERVIEW

EDUCATION

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  10 OCT 2024

  Humanitarian actors today face a multitude of operational and environmental risks that can result in supply chain disruptions. Building resilient supply chains is key to ensuring the availability of life-saving commodities and begins with understanding the operating environment and the contextual factors that make them susceptible to disruptions.

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  10 OCT 2024

  Join this complimentary Gartner HR webinar as Gartner experts take an in-depth look at the top trends, priorities and challenges that over 1,400 HR leaders plan to address in the coming year. Gain insights and strategies for your own planning to navigate this new environment that is in alignment with the rest of the business.

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  24 OCT 2024

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  But what about the shipping box?

  What you will learn:

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  - How Automated Packaging functions in different environments
  - Economic and Environmental benefits of right-sized packaging
  - How On Demand Packaging integrates with warehouse automation technology

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  13 NOV 2024

  In this session you will learn how Incoterms 2020 split responsibilities and costs between seller and buyer. We will discuss the major differences with the previous edition (Incoterms 2010) and highlight where potential issues might arise.

  Crucial for your sales team but also important for the supply chain and/or logistics departments. Make sure you are aligned with the new Incoterms 2020 - you can't afford to miss this session!

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PUBLICATIONS

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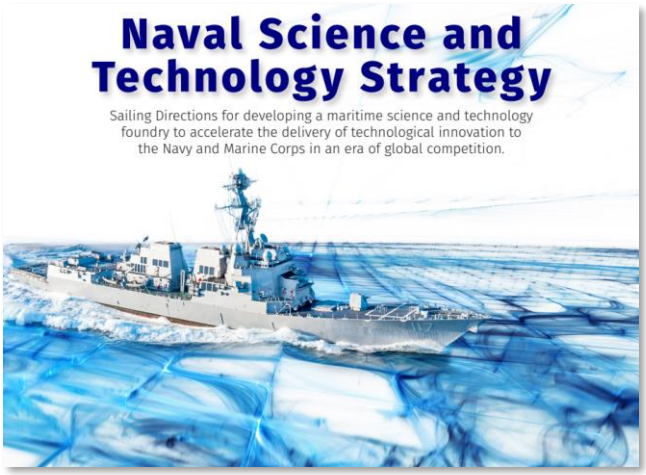


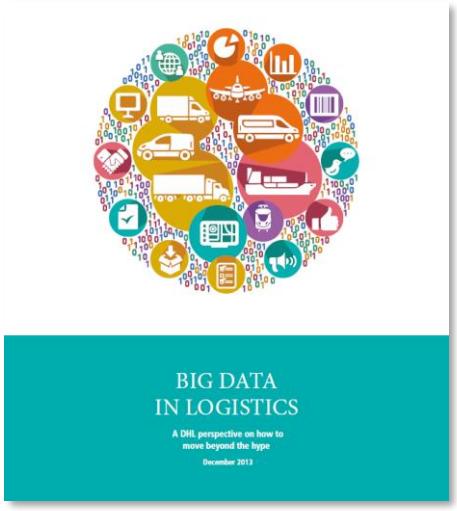
The Naval Science and Technology (S&T) Strategy is a global call to service for scientists, engineers, inventors and innovators from academia, industry, and government to work in solving naval problems.

Guided by the North Star of delivering capabilities to American warfighters and allies, it provides a spectrum of technological choices to the Navy and Marine Corps for future operations that create enduring advantage.

Read about the current and future size and composition of the US Navy, the annual rate of Navy ship procurement, the prospective affordability of the Navy's shipbuilding plans, the capacity of the shipbuilding industry to execute the Navy's shipbuilding plans, and Navy proposals for retiring existing ships.

The Emerging ASEAN countries, especially due to their young populations, low wage levels, and advantageous geographical location, have for European companies.

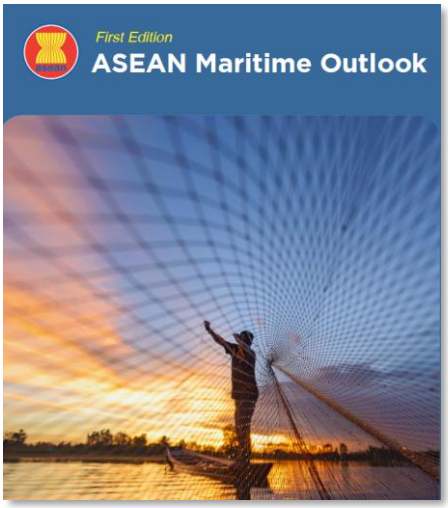
However, problematic aspects include low educational levels, low productivity, weak regulatory frameworks, high trade barriers and poor infrastructure quality.



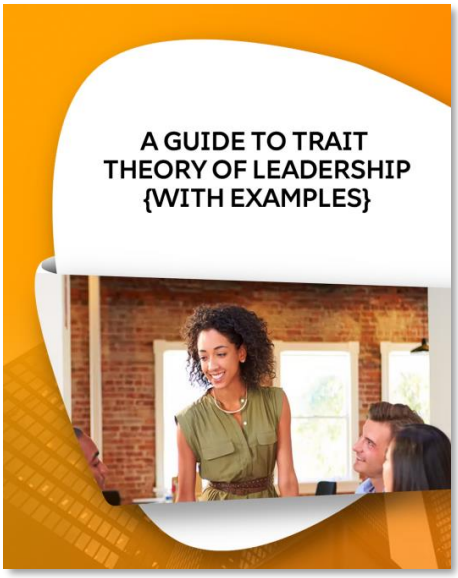
This overarching study is a dynamic, living document designed to help organizations derive new strategies and develop more powerful projects and innovations.

To sharpen the focus, this trend report now asks the key Big Data questions:

- How can we move from a deep well of data to deep exploitation?
- How can we use information to improve operational efficiency and customer experience, and create useful new business models?



The importance of Southeast Asia as a maritime region, as affirmed in the ASEAN Outlook on the Indo-Pacific (AOIP), transcends its historical role and traditional geographical scope.



Leadership is often left in the hands of a few select individuals. They are often courageous, decisive and willing to accept responsibility for the consequences of their decisions.

Trait theory of leadership is an idea that certain individuals are born with the innate characteristics to make them great leaders. Not everyone has the personality or natural abilities to make a good leader, and those who do not fall into the leader category can be described as followers.

The horizon offers opportunities for those who dare to transform their airport operations. Technological advancements provide a roadmap for airports to succeed in meeting changing demands. Future readiness involves integrating emerging technologies, data, people, and processes strategically. Taking this step can mean leading the industry or falling behind.

Who We Are

The Chartered Institute of Logistics and Transport Singapore is part of the leading, global professional body for those engaged in supply chain, logistics and transport – covering all sectors of the industry, namely air, land and sea, for both passenger and freight transportation.

Our primary objectives are to support our members in continuous professional development to future-proof their careers, as well as to work in close collaboration with the public and private sectors, Government agencies and the academia to develop opportunities and synergy for industry transformation and growth, underpinned by strategic thrusts in digitalisation and sustainability.

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