



MAKING WAVES

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Royal Navy makes large drug seizure in Arabian Sea

The Royal Navy's Type 23 frigate HMS Montrose has, with the assistance of the French frigate FS Jean Bart, seized a large haul of drugs in the Arabian Sea.

The two warships worked together to intercept a dhow carrying 94 kg of heroin and 76 kg of crystal methamphetamine – this haul of narcotics is estimated to have a street value of over a million US dollars. Narcotics smuggling in the region is linked to major criminal networks and terrorism.

The Royal Navy on 11 October said a suspicious dhow was initially located by FS Jean Bart's helicopter and boarded by a team from the French ship who secured the vessel and conducted an initial investigation. Royal Navy and Royal Marines personnel from HMS Montrose then took over the search of the vessel and the team located and seized a large number of packages containing drugs.

The Commanding Officer of HMS Montrose, Commander Ollie Hucker, said he and his ship's company have been training hard for this type of mission: "We were conducting a Replenishment at Sea with a US Navy Tanker in the early morning when I received the news of the suspicious dhow; we were ready to commence a successful counter narcotics operation with the FS Jean Bart in the afternoon.

"This demonstrates the flexibility and professionalism of the Royal Navy and French Navy and the very close interoperability with our coalition allies.

"I am immensely proud of my Ship's Company who have all played their part in tackling the international drugs trade from the sea and have prevented the landing of these drugs in other countries, perhaps even the streets of the UK. Seizures like these put a dent in the funding of wider illicit and illegal activity."

The two warships were operating as part of the multinational task force, Combined Task Force (CTF) 150. This is part of the 33 nation coalition Combined Maritime Forces (CMF) and has responsibility for counter terrorism and counter narcotics across a large area of the Arabian Sea and Indian Ocean. CTF 150 is a joint command shared between the Royal Navy and French Marine Nationale and is led by Commodore Ed Ahlgren of the Royal Navy, who took over in August of this year.

Cdre Ahlgren said: "This interdiction is testament to the outstanding teamwork and collaborative co-operation within CMF that has been demonstrated in my area of operations. I am enormously grateful to French Ship Jean Bart for initially locating and securing the vessel in preparation for handover to another coalition unit.

“HMS Montrose then responded in a tradition I would expect from the Royal Navy. Her Ship’s Company showed true professionalism and grit in the manner in which they conducted the boarding – collectively as a UK-French endeavour, we have now successfully stopped this particular illegal cargo reaching other regions of the world and probably prevented well over a million dollars of funding for those who would wish to do us harm.”

One of the Rigid Hull Inflatable Boat drivers is Advanced Tactical Coxswain Able Seaman, Seaman Specialist Ben Davies: “Working at night was particularly challenging. Once my training kicked in, I was able to manoeuvre the sea boats successfully alongside the dhow to allow members of the boarding team to embark safely as well as recover them and the drugs, back on to HMS Montrose.”

This brings the total of drugs seized by CMF warships in 2019 to over 2,000kg of heroin, just over 130kg of crystal methamphetamine and nearly 50,000kg of hashish. Locally, this would equate to around over \$46 million and is ahead of the total achieved in 2018 at this stage of the year. By the end of the 2018, CMF warships had seized narcotics worth over \$75 million.

HMS Montrose is the first Royal Naval ship to be forward deployed to the Middle East and is supported by personnel from the Royal Navy and other Services working as part of United Kingdom Maritime Component Command (UKMCC) and CMF.

Since arriving in April 2019, she has undertaken a wide range of operational tasking ensuring freedom of navigation in the region, protection of merchant shipping as well as tasking in support of CMF.

Source: defenceweb.co.za, 21 October 2019

Saudi Arabia joins U.S.-led maritime coalition after attack on its oil facility

Saudi Arabia said Wednesday it joined a U.S.-led coalition to secure the Mideast’s waterways amid threats from Iran after an attack targeting its crucial oil industry.

The kingdom’s decision to enter the International Maritime Security Construct came ahead of a planned visit by U.S. Secretary of State Mike Pompeo. Saudi officials separately planned to share information about the weapons used to attack a Saudi oil field and the world’s largest crude oil processing plant Saturday.

Yemen’s Iranian-backed Houthi rebels have claimed the attack, but the U.S. and Saudi Arabia say they suspect Iran carried out the assault. Iran denies that, though it comes amid a summer of heightened tensions between Tehran and Washington over its unravelling nuclear deal with world powers.

The state-run Saudi Press Agency carried a statement Wednesday morning quoting an unnamed official saying the kingdom had joined the International Maritime

Security Construct. Australia, Bahrain and the United Kingdom have already joined the mission.

“The kingdom’s accession to this international alliance comes in support of regional and international efforts to deter and counter threats to maritime navigation and global trade in order to ensure global energy security and the continued flow of energy supplies to the global economy and contribute to maintain the international peace and security,” the news agency said. U.S. military officials did not immediately respond to requests for comment from.

The coalition aims to secure the broader Persian Gulf region. It includes surveillance of the Strait of Hormuz, the narrow mouth of the Persian Gulf through which a fifth of the world’s oil travels, and the Bab el-Mandeb, another narrow strait that connects the Red Sea and the Gulf of Aden off Yemen and East Africa. Smaller patrol boats and other craft will be available for rapid response. The plan also allows for nations to escort their own ships through the region

The U.S. Navy already has sent Arleigh Burke-class guided missile destroyers to chokepoint positions, like either end of the Strait of Hormuz. There, they observe ship traffic and monitor for anything unusual as drones and other aircraft fly surveillance routes overhead.

The U.S. blames Iran for the apparent limpet mine explosions on four vessels in May and another two in June sailing in the Gulf of Oman near the Strait of Hormuz, something Iran denies being behind. Iran also seized a British-flagged oil tanker and another based in the United Arab Emirates.

It’s unclear what role the kingdom will play in the coalition. Bahrain already serves at the headquarters of the U.S. Navy’s 5th Fleet. Wednesday’s announcement comes after Saudi Arabia’s Energy Minister said late Tuesday that more than half of the country’s daily crude oil production that was knocked out by an attack had been recovered and that production capacity at its targeted plants would be fully restored by the end of the month.

“Where would you find a company in this whole world that went through such a devastating attack and came out like a phoenix?” Prince Abdul-Aziz bin Salman said about state-owned Saudi Aramco, which was the target of the attacks. His question to reporters, many of them Saudi, drew applause.

Source: [thehindu.com](https://www.thehindu.com), 18 September 2019



Japan to independently dispatch MSDF to Middle East

- The Yomiuri Shimbun

The government on Friday decided to launch a detailed study to prepare for dispatching a Maritime Self-Defence Force unit independently to the Middle East to collect information on securing the safety of sea lanes in the region.

The decision was made at a National Security Council meeting of four ministers held at the Prime Minister's Office on the same day. The government is making preparations to dispatch an MSDF destroyer by the end of this year.

“Japan will take independent measures to ensure peace and stability in the Middle East region and the safety of ships related to our country,” Chief Cabinet Secretary Yoshihide Suga said at a press conference.

Japan will not participate in a U.S.-proposed “maritime security initiative” that aims to protect ships in the Strait of Hormuz, he said.

Source: the-japan-news.com, 19 October 2019

Hyundai to design F-35B-capable amphibious assault ship for ROK Navy

South Korea's Hyundai Heavy Industries has received a contract to design the Republic of Korea Navy's next-generation amphibious assault ship that would be capable of supporting short-take off and vertical landing fighter jet operations. Dubbed LPX-II, the project will be follow-on to the two LPX-I ships, the first of which was commissioned in 2007 while the second is expected to enter service in 2020 after being launched in 2018.

According to a report from Yonhap, Hyundai is to deliver a conceptual design for a “large-deck” landing ship before exact specifications and technologies are determined. The work is to be completed by the second half of 2020. In September 2018, Republic of Korea Marine Corps Chief, Lt. Gen. Jun Jin-goo, said the service was “considering building a LPX (large platform experimental)-type ship capable of carrying aircraft in close cooperation with the navy”.

The ship, which is planned to be put in service in the 2030s, will most likely operate the Lockheed Martin-built F-35B short takeoff and vertical landing version of the fifth-generation fighter aircraft. The country has a total of 40 F-35A (conventional takeoff and landing variant) aircraft on order under a contract from 2014. The

country's arms procurement agency announced earlier this month that it has initiated the acquisition of another 20 aircraft, without specifying the exact version to be bought. Some media reports have indicated that the second batch of jets could be the F-35B variant.

Source: naval.com , 16 October 2019

First UK fighter jets land onboard HMS Queen Elizabeth

Pictures released by the MOD show UK F-35 Lightning jets landing, taking off and hovering onboard Britain's next generation aircraft carrier, HMS Queen Elizabeth for the first time.

Flown by Royal Navy and Royal Air Force pilots, the Lightning jets are embarking in the 65,000 tonne carrier to conduct operational trials off the East Coast of the USA. This follows successful developmental trials last year with US Lightning jets, where forces conducted 500 take offs and landings over their 11-week period at sea.

These trials are aimed at 'end-to-end' testing of the aircraft and personnel to ensure the aircraft are compatible with the carrier. The tests involve mission planning, arming the aircraft using the ship's Highly Automated Weapon Handling System, flying missions and debriefing on completion.

The landings on HMS Queen Elizabeth are part of the 'WESTLANT 19' Carrier Strike Group deployment. Once fully operational, UK Carrier Strike Group will be a formidable force around the world, using a number of platforms to work alongside our allies.

During this time, the aircraft carrier will be escorted by Type 45 destroyer HMS Dragon, submarine hunter HMS Northumberland, tanker RFA Tideforce and Merlins from 814, 820 and 845 Naval Air Squadrons, Wildcats from 815 squadron and Royal Marines from Lima Company, 42 Commando. Defence Secretary Ben Wallace said: This is another step towards the UK's carrier strike capability becoming fully operational.

The bringing together of the UK Lightnings on the first in class HMS Queen Elizabeth paves the way for the world's most up to date, fully integrated carrier force.

The Lightning aircraft operates with a cutting-edge design. It is the first jet to combine radar evading stealth technology with supersonic speed, as well as the ability to land vertically. Given its ability to conduct missions both from land and sea, the jets act as a formidable spine to the 'carrier strike' capability. The UK currently owns 18 aircraft, with an additional order placed for 30 jets.

First to land onboard, Wing Commander Adam Curd, Royal Air Force, said: This is the first time I have landed onboard an aircraft carrier – for it to be HMS Queen Elizabeth, and in an aircraft as amazing as a UK Lightning, is quite something.

This is a proud moment not only for me, but the wider team that has brought us to this milestone for maritime aviation and UK Defence. The trials will be led by the joint Royal Navy - Royal Air Force 17 Test and Evaluation Squadron from the Air Warfare Centre. The Squadron will be operating alongside personnel and aircraft from the UK Lightning Force, based out of RAF Marham.

Assistant Chief of the Naval Staff for Aviation and Carrier Strike, Rear Admiral Martin Connell, Royal Navy, said: Embarking UK Lightning jets in HMS Queen Elizabeth for the very first time is a major milestone for Royal Navy and Royal Air Force aviation and for our development of the 5th generation Carrier Strike Group capability.

Once again, the support from our US Navy and US Marine Corps colleagues in the United States has been incredible and undoubtedly helped bring us to this moment: making maritime aviation history. Air Officer Commanding Number 1 Group, Air Vice-Marshal Harvey Smyth, Royal Air Force, said: WESTLANT19 marks an extremely significant milestone on our 10-year journey to establishing our renewed Carrier Strike capability.

Bringing our own Lightnings onboard HMS Queen Elizabeth for the first time gives us the opportunity to conduct critical operational testing. With the Royal Navy and Royal Air Force operating so closely together, these are incredibly exciting times for embarked Combat Air.

The UK will declare Initial Operating Capability for Carrier Strike by the end of 2020. The first operational deployment for HMS Queen Elizabeth 617 Squadron and a squadron of US Marine Corps Lightning jets is due to take place in 2021.

Commander of the Strike Group, Commodore Mike Utley, Royal Navy said: Getting to this point of embarking UK Lightning jets into our British-built carrier has been a significant joint undertaking by industry and military – both ours, and those from the United States. We will take the jets from the successful developmental phase we achieved last year through to a more operational footing, so we are confident that the jets, the carrier and our destroyers and frigates will function seamlessly together.

Source: [gov.uk](https://www.gov.uk), 13 October 2019

Philippines, Japan, US conclude amphibious drill Kamandag

The US, Philippines and Japan concluded the bilateral military exercise Kamandag 3 in a ceremony in Manila, Philippines, on October 18.

The Philippine-led, bilateral military exercise, which was designed to increase readiness through capabilities development, improve combined responsiveness, and enhance partnership and interoperability between Philippine, Japanese and US forces.

This year's KAMANDAG marked two major milestones during the exercise. The Philippine Marine Corps successfully launched their assault amphibious vehicles for the first time alongside US and Japan Ground Self-Defense Force AAVs to conduct a multilateral amphibious landing.

Additionally, significant advancements were made during bilateral air defense and threat reaction drills between Philippine and US forces, which support territorial defense training.

Throughout the exercise, Philippine and U.S. service members conducted training in amphibious operations, live fire drills, military operations in urban terrain, reconnaissance, low altitude air defense, aviation operations, humanitarian assistance and disaster relief, and other areas.

The Japan Ground Self-Defense Force's participation in the exercise focused on humanitarian assistance and disaster relief training scenarios. All three countries partnered during a variety of community relations events, including teaching hundreds of local civilians in the Luzon region about lifesaving skills, disease prevention practices, and overall personal wellness.

"Our forces have enhanced capabilities, interoperability and readiness through teamwork fostered by a true dedication to the attainment of excellence," said Maj. Gen. Paul J. Rock Jr., 3rd Marine Expeditionary Brigade commanding general. "Seeing the output of their hard work and expertise, I have the utmost confidence that our forces stand prepared in their mission to uphold peace and security throughout the Indo-Pacific region."

Source: navaltoday.com, 21 October 2019

Russian frigate Admiral Kasatonov begins state trials

The Russian Navy's second Project 22350 frigate, Admiral Kasatonov, has begun state trials ahead of the ship's delayed delivery which is expected to take place by the end of the year.

According to the Northern Shipyard, Admiral Kasatonov has already passed a number of checkpoints, including tests of the main power plant, communication and navigation systems, deck mechanisms, and crew living conditions.

The frigate, which is now in the Northern Fleet's area of responsibility, is set to start weapons and flight operations tests in November. Admiral Kasatonov first took to sea in December 2018 after starting construction in 2009.

Russia's Project 22350 frigate program was delayed in part by complications caused by the refusal of Ukrainian company Zorya-Mashproyekt to deliver gas turbines to the ships following the 2014 Crimea conflict and in part by technical issues caused by the incorporation of more complex equipment and technology.

Project 22350 frigates displace 5,000 tons, measure 135 meters in length and have a cruising range of 4,500 miles. They feature the Poliment-Redut naval surface to air defense system, which was reportedly one of the reasons behind the delay in the delivery of the lead ship in the class, and launchers for 16 Onyx or Kalibr anti-ship missiles. A Ka-27 anti-submarine helicopter will also be embarked.

Source: navaltoday.com, 23 October 2019

US leads International Maritime Exercise in Persian Gulf

The US Navy-led International Maritime Exercise 2019 (IMX 19) that will involve participants from over 50 nations kicked off in the Persian Gulf on October 21.

The exercise will span from the Suez Canal south to the Bab-al-Mandeb, through the Strait of Hormuz and into the Northern Arabian Gulf.

It will consist of four phases: staff training, table-top and classroom exercises, fleet training exercise (FTX), and force redeployment.

This iteration of IMX is the sixth of its kind, the first being conducted in 2012 and the most recent being held in 2017. Vice Adm. Jim Malloy, commander, U.S. Naval Forces Central Command, U.S. 5th Fleet, Combined Maritime Forces, explained that IMX 19 will be the most dynamic one to date.

“This year's iteration is the largest yet, expanding in size and geography; including all essential elements of maritime security operations,” said Malloy.

“We've grown participation by about twenty nations, are covering an unprecedented amount of ground in the region, and our multinational team is taking part in more training scenarios than ever before.”

Vice Adm. Malloy also stated that multinational exercises such as IMX 19 strengthen partnerships with nations in the US Central Command area of responsibility (AOR) and beyond; relationships that are critical to mission success.

“IMX is an important demonstration of global commitment to freedom of navigation and the free flow of maritime commerce in this region,” said Malloy. “I’m proud that we have participation from nations all over the world, especially in leadership positions of multiple task forces. Stability and security in the maritime domain is a shared goal of all nations.”

The US Navy did not provide information on the assets that would be involved in the maneuvers.

Source: navaltoday.com, 22 October 2019



Hambantota International Port partners with NYK Japan

The Hambantota International Port Group (HIPG) has entered into a Terminal Service Agreement (TSA) with Japanese Shipping Conglomerate NYK, the first RoRo specific TSA entered into by the shipping line with a Sri Lankan Port.

Nippon Yusen Kaisha (NYK), whose 130-year history runs parallel to that of its maritime nation, is Japan's largest shipping company and world's no 1 RoRo fleet operator. Under the TSA, NYK will bring RORO, machinery and equipment cargo to the Hambantota International Port (HIP), for 16ranshipment to the various parts of the world. It is significant that NYK entered into the TSA with HIPG, after a hiatus of 4 years during which they did not bring any 16ranshipment cargo to Sri Lanka. The upgraded services at HIP including the latest in equipment, increase in productivity and zero accident policy, combined with the benefits and concessions offered by the port encouraged NYK to enter into the agreement and renew their operations with Sri Lanka.

The TSA will be instrumental in increasing volumes of 16ranshipment cargo to the Hambantota Port, from Japan and Thailand with the possibility of India joining the equation in the future. Tissa Wickramasinghe, COO of HIPG says that the TSA with NYK is a considerable boost to the port and proof of its international status.

“This is the second TSA we signed with a Japanese shipping line and it's a testament to the efficiency levels and commercial benefits HIP can offer. We also hope that NYK Line, Japan's No. 1, entering into an agreement to bring 16ranshipment cargo to HIP, would encourage other Japanese shipping lines to follow suit.” The enhanced service quality and constant improvements HIPG has brought to the port has paid off, inspiring trust and confidence amongst their customers and attracting global industry leaders like NYK. “We're convinced our partnership with HIP is the beginning of mutually beneficial cooperation. With our global reach, combined with the expertise and location advantage of the Hambantota International port, we can anticipate optimizing business opportunities in the future,” says Sagara Peiris, Director of NYK Line.

“NYK is committed to looking for new and alternative ways of operating and we believe the TSA with HIPG will help us in furthering this goal.”

Source: hellenicshippingnews.com, 20 October 2019

LNG shipping rates soar as sanctions hit vessel availability

LNG shipping rates have surged to \$130,000pd currently from around \$80,000pd at the end of September due to tight vessel supply and seasonal firmness in demand. Furthermore, the upward momentum in rates is expected to be maintained in 4Q19 due to a reduction in the availability of vessels in the spot market, driven by several factors including– US sanctions on COSCO-linked LNG vessels, a rise in LNG demand, vessels being used for floating storage and typhoons causing delays in China and Japan.

The LNG shipping market, which had been reeling under a long spell of low charter rates in the first three quarters of 2019, finally came to life when a combination of factors worked in tandem to squeeze the vessel supply. First, the US sanctions on COSCO-linked LNG vessels forced charterers to find replacement vessels from the spot market, reducing the prompt availability of vessels. Moreover, the ongoing contango in LNG prices has resulted in a sudden jump in floating storage levels in Asia, further reducing the vessel supply in the market. In addition, typhoons in China and Japan have affected vessel offloading in the region. Adding fuel to the fire, high LNG inventories in Europe have caused LNG vessels to either slow steam or delay deliveries, absorbing more vessels from an already tight fleet.

On 25 September 2019, the US imposed sanctions on Chinese shipping companies – COSCO Shipping Tanker (Dalian) Co. and COSCO Shipping Tanker (Dalian) Seaman and Ship Management Co. – for allegedly transporting Iranian oil on their tankers despite the sanctions on Iran. In the same line, 12 COSCO-linked LNG carriers were also blocked from trading. The resultant reduction in vessels has triggered LNG charter rates over the last two weeks.

Among the 12 vessels, six Arc-7 class LNG carriers (with a combined LNG-carrying capacity of 1 million cbm) under the 50-50 Yamal LNG JV between Teekay LNG and China LNG Shipping (50% owned by COSCO) were blocked. This led to a setback to the Russian LNG exports which are dependent on the ice-breaking capability of these vessels during winter. The remaining six LNG carriers linked to COSCO were on charter with China National Offshore Oil and Gas Company (CNOOC), which is now seeking to replace the carriers on an immediate basis, which will further deplete the prompt vessel availability, causing a surge in rates.

As a measure to weather the storm, Novatek's Yamal LNG project is seeking to use Norway or Murmansk as transshipment hubs to fulfil its contractual obligations. Furthermore, ongoing weather delays caused by typhoon Hagibis in China and Japan have resulted in a Chinese-receiving terminal being shut down and causing offloading delays in Japan and limiting vessel availability. The market is facing scarcity of prompt vessels at a time when LNG trading has started to rise ahead of

peak winter heating demand. We expect many Asian countries to increase their LNG imports in 4Q19, with expectations for a colder winter this year.

Increased demand expectations have also spurred forward LNG prices, leading to a rise in the use of LNG carriers as floating storage. Higher LNG forward prices have also given an incentive for LNG carriers to take longer voyages and diversions to avoid quick deliveries, further contracting vessel supply.

In addition, upcoming liquefaction capacity through Elba LNG T1-5 (1.5 mtpa) in the US, Vysotsk T2 (0.6 mtpa) and Yamal LNG T4 (1.2 mtpa) in Russia will further provide an impetus to keep shipping rates high in 4Q19.

LNG shipping rates have gradually increased on the BLNG1 Index (the Gladstone-Tokyo route) to stand at \$132,900pd on 11 October from \$61,100pd on 24 September (before the sanctions), up by 117%. In the near term, vessel availability is unlikely to increase. Therefore, we project TFDE rates for a 170,000 cbm vessel to breach the \$200,000pd mark in the short term, while steam turbine rates will cross the \$100,000pd mark. Overall, we expect high demand and tight vessel availability to keep shipping rates high in the range of \$150,000pd – \$200,000pd in 4Q19.

Source: hellenicshippingnews.com, 21 October 2019

IBM Joins Mayflower Autonomous Ship Project

American information technology company IBM has joined a global consortium of partners, led by marine research organization ProMare, which is building an unmanned, fully-autonomous ship that will cross the Atlantic in September 2020.

A new Mayflower will set sail 400 years after the historic voyage, this time using AI and other advanced technologies.

The Mayflower Autonomous Ship (MAS) will use IBM's AI, advanced servers, cloud and edge computing technologies to navigate autonomously and avoid ocean hazards as it makes its way from Plymouth, England to Plymouth, Massachusetts. During the 12-day voyage, the ship will be powered mainly by wind and solar energy. If successful, it will be one of the first self-navigating, full-sized vessels to cross the Atlantic Ocean and will open the door on a new era of autonomous research ships. "Putting a research ship to sea can cost tens of thousands of dollars or pounds a day and is limited by how much time people can spend onboard – a prohibitive factor for many of today's marine scientific missions," Brett Phaneuf, a Founding Board Member of ProMare and Co-Director of the Mayflower Autonomous Ship project, said.

"With this project, we are pioneering a cost-effective and flexible platform for gathering data that will help safeguard the health of the ocean and the industries it supports." The vessel will carry three research pods containing an array of sensors

and scientific instrumentation that scientists will use to advance understanding in a number of vital areas such as maritime cybersecurity, marine mammal monitoring, sea level mapping and ocean plastics. The work will be coordinated by the University of Plymouth, the UK, which is at the forefront of marine and maritime research, with support from IBM and ProMare.

Ocean Plastics – A Major Concern

The University of Plymouth will lead research to advance understanding about plastics in the ocean, analyzing water samples from MAS as it sails across the Atlantic to understand more about the origin, distribution and potential impact of microplastics in the ocean. According to Professor Richard Thompson, OBE, Director of the Marine Institute, University of Plymouth “*microplastics present a substantial challenge to our oceans. Over 700 species come into contact with marine litter which is found from the poles to the equator, and estimates are that the quantity of plastic in the oceans will triple in the decade to 2025.*” “*The Mayflower Autonomous Ship gives us the opportunity to rethink how to collect data and further our understanding of this global issue,*” Thompson added. Also coming on board is the UK’s University of Birmingham which will be responsible for the use of virtual, augmented and mixed reality technologies in the MAS mission. Birmingham’s Human Interface Technologies (HIT) Team is leading the development of a Mixed Reality Telepresence Science Station which will allow the public to experience the transatlantic mission.

AI and Other Advanced Technologies at the Helm

IBM is helping ProMare to build deep learning models capable of recognizing navigation hazards which come into view in MAS’s onboard video cameras. Trained on real data and images from the Plymouth Sound in the UK, MAS will be capable of recognizing hazards such as buoys, debris and other ships and will have constant situational awareness thanks to RADAR, AIS and LIDAR – the same technology used in autonomous cars. When a hazard is detected, MAS will use IBM’s software to help decide autonomously whether to change course or, in case of emergencies, speed out of the way drawing additional power from its onboard back-up generator. Fusing data from nautical maps, sensors and weather forecasts, MAS will be able to determine the optimal path and speed it should take across the Atlantic.

During the voyage, edge devices will collect and analyze ship data and store it locally. When connectivity is available, it will be uploaded to edge nodes located onshore. ProMare and IBM experts will update the deep learning models and push them out to the ship as required. The hull of the Mayflower Autonomous Ship is currently being constructed and outfitted in Gdansk, Poland by Aluship Technology, before being transported to Plymouth later this year. Once completed, the ship will have a length of 15 meters, a weight of 5 tons and a speed of 20 knot

Atlantic container shipping rates far outperform Pacific

The ebb and flow of trade relations between the U.S. and China have had a significant effect on Pacific container markets, whether cargoes are discharged on the West Coast or transit the Panama Canal to the East Coast.

Now, trade tensions are heating up between the U.S. and Europe. The U.S. is poised to begin adding tariffs on \$7.5 billion of European goods including wine, cheese and aircraft starting Oct. 18.

On Oct. 16, President Donald Trump raised the possibility of additional tariffs on EU goods. He said that if the EU was unwilling to reduce the trade imbalance with the U.S., “I could solve the problem instantly. It would involve tariffs on European products coming into this country. For right now, we’re going to try and do it without that.”

This begs the question of whether a trade dispute between the EU and U.S. could affect trans-Atlantic container volumes, just as the trade conflict with China has impacted the trans-Pacific.

Pricing data from Freightos provides a good window on the current state of play in the trans-Atlantic container trade. Freightos publishes daily indices that measure the cost to ship a 40-foot-equivalent-unit (FEU) container. Assuming there are no major changes in vessel supply, shipping rates provide a reasonable proxy of cargo demand.

The Freightos index covering the Europe-to-U.S. East Coast lane (SONAR: FBXD.ENAE) confirms that rates are on the rise. Between Aug. 1 and Oct. 15, container shipping rates have increased 18%, to \$2,016/FEU. Rates are up 10% year-on-year.

This is a normal pattern of healthy price movement. Rising year-on-year rates imply growing trade volume, while the jump since August follows the typical peak-season pattern as autumn demand traditionally increases.

Now compare this to what’s going on in the trans-Pacific market. China-to-U.S. West Coast rates (SONAR: FBXD.CNAW) are now down 47% year-on-year and 1% since August. China-to-U.S. East Coast rates (SONAR: FBXD.CNAE) are down 23% year-on-year and 5% since August.

The year-on-year decline in the trans-Pacific is likely due to tariff-related decisions in 2018. Last year, U.S. importers prepurchased goods and brought them into the country early to beat looming tariff deadlines. This pulling forward of volumes

inflated last year's numbers and decreased 2019 volumes (because inventory was already in the country), creating negative year-on-year comparisons.

Meanwhile, the decline in the trans-Pacific shipping prices during the typical autumn peak season suggests weak demand – and potential trouble for container lines.

The high relative outperformance of the U.S. trans-Atlantic inbound trade versus the trans-Pacific inbound trade highlights the importance of watching the Trump tariff news closely. If trade relations with the EU take the same confrontational path as they have with China, the fallout could ultimately be seen in the container shipping price data.

Source: hellenicshippingnews.com, 21 October 2019

Australia and European Union push for east Antarctic marine sanctuary

Australia will push for a million square kilometres of the Antarctic ocean to be protected as a marine sanctuary at an international forum in Hobart this week. Bids to preserve a large area of pristine ocean off east Antarctica have struck opposition in the past, including at last year's meeting of the Commission for the Conservation of Antarctic Marine Living Resources, where China and Russia played a part in blocking the proposal.

Australia is co-sponsoring the proposal for an East Antarctic Marine Protected Area, along with the European Union, and will resubmit it at this year's CCAMLR meeting. The organisation's membership includes 25 nations and the EU.

The plan requires the support of all members for it to proceed. The environment minister, Sussan Ley, said the decision to pursue the sanctuary "underlines our commitment to protecting the Antarctic and Southern Ocean". Gillian Slocum, the leader of Australia's delegation to the CCAMLR, said the proposal would protect reefs and safeguard several marine species.

"When established, the East Antarctic MPA will protect distinctive deep-water reefs and feeding areas for marine mammals, penguins and other seabirds," she said. The Australian Antarctic Division said the proposed sanctuary would also provide scientific reference zones to help researchers understand the effects of fishing outside protected areas and the consequences of climate change for Southern Ocean ecosystems.

The Australian Antarctic explorer and adventurer Tim Jarvis has called on member countries to support the plan, warning that climate change and the threat of industrial fishing were putting pressure "on this incredible place". "If you don't protect those resources, you risk disrupting the whole global food web in the ocean,"

he said. “You’re not going to head off climate change but you’re going to make them more resilient to it. “If it could all be protected, that would be fantastic but if we could get this million square kilometres it would be a huge step in the right direction.”

But he added that most of the changes necessary to protect Antarctica and its marine life needed to be through a collective global effort to cut carbon pollution and limit global heating.

“You want to protect Antarctica, we need to change the way we do things back in the rest of the world ... in the cities where 75% of us live, where we consume the energy that contributes to the CO2 emissions,” he said.

Source: [guardian.com](https://www.guardian.com), 19 October 2019

Brazil's Oil Spill Is a Mystery, so Scientists Try Oil Forensics

Thousands of barrels of oil have been tarring Brazil's beaches since September, and no one knows why. An oil spill scientist is running oil forensics to find out. Oil is mysteriously washing ashore across more than 2,000 kilometers of sandy beaches in northeast Brazil, and officials aren't sure of the cause. The oil first appeared on dozens of beaches in early September and has since spread to nine coastal states, forcing beach closures and killing wildlife. Officials aren't sure where the oil is from or how much more could be coming. The oil is floating beneath the surface of the ocean, making it difficult to track, and no one has stepped forward to take responsibility for the spill. The Brazilian state oil company, Petrobras, claimed it is not involved, and chemical analysis by Brazil's environmental agency Ibama suggests that the spill does not match oil from Brazil. A separate analysis of oil chemistry by Brazil's Federal University of Bahia supported Ibama's findings.

More tests are being conducted, and some results may be available later this week. Christopher Reddy, a scientist at the Woods Hole Oceanographic Institute (WHOI), received 14 oil samples from Brazil to run on his specialized instrument in Massachusetts. Reddy and his team are analyzing the samples in their comprehensive two-dimensional gas chromatography device to characterize the hydrocarbons present in the oil.

Venezuela has been indicated as a possible source of the spill. Brazil's environmental minister Ricardo Salles said in early October that the oil was likely from Venezuela, supported by an analysis by Petrobras. An independent analysis by Federal University of Bahia also found a "strong correlation" between the oil spill samples and a type of Venezuelan oil, which Olívia Maria Cordeiro de Oliveira, director of the university's Geosciences Institute, called "conclusive."

The Venezuelan state oil company and oil ministry said the statements were "unfounded." The signals from Brazilian officials have been mixed, with President Jair Bolsonaro claiming without evidence that the oil is part of criminal activity to stymie an upcoming oil prospecting auction, reports the *Washington Post*.

Finding the Culprit

The case may be tough to crack. Researchers analyzing the samples from Brazil are at a "distinct disadvantage," said Reddy, because the oil has been exposed to the

elements. Water dissolves compounds, and sunlight zaps away volatiles, so the oil samples may be modified from the source material

Oil carries certain chemical fingerprints, depending on its source material and geologic conditions. Oil from Saudi Arabia contains a different chemical makeup than oil from the Gulf of Mexico, for example, and petroleum geochemists publish oil profiles of different reservoirs. “Old organic matter gets cooked in, squeezed, and made into oil, and that can generate a variety of different outcomes,” Reddy said. Refining processes and other factors also leave imprints on oil’s chemical signature.

The gas chromatography machine used in Reddy’s lab will test the concentrations of roughly a thousand or more hydrocarbons, he said, and will allow his team to create “three-dimensional maps” of the oil’s chemistry. The team uses a “souped-up” version of a gas chromatography machine, he said, which is why his colleagues in Brazil sent him the samples. Internal funding from WHOI provided support to run the experiments. The first rounds of tests should distinguish if the oil is unrefined or not, said Reddy, meaning it could be either crude oil or some type of refined oil from a ship, like bunk oil. The lab hopes to create a fact sheet of characteristics of the samples.

Reddy cautions that the readouts from the machine won’t be able to tell all the details officials need, such as the country of origin. “I don’t want to get in the middle of saying it’s Venezuelan crude versus a Brazilian crude,” he said.

But researchers can’t tell the whole story without working with physical scientists studying ocean currents, said Reddy. One such initiative at the Federal University of Rio de Janeiro is using ocean models to backtrack the oil’s spread in time, according to professor Luiz Paulo Assad.

Meanwhile, volunteers, environmental workers, and troops are clearing beaches with shovels and by hand. More than 4,000 barrels of oil have been removed, and teams are also finding dead seabirds, turtles, and dolphins covered in oil. Scientists are particularly worried about the spill’s possible effects on the upcoming sea turtle migration, when roughly 800,000 olive ridley and loggerhead sea turtles crawl across beaches into the ocean

Source: [eos.org](https://www.eos.org), 24 October 2019

Karnaphuli oil spill: Errant lighter vessel fined Tk3cr

A collision between two oil tankers caused the oil spill on Oct 25.

The Department of Environment (DoE) fined the owner of a lighter oil tanker Tk3 crore on the charge of polluting the environment by spilling heavy fuel into the Karnaphuli River, as the lighter vessel collided with a stationary vegetable oil tanker on Friday. Azadur Rahman Mollick, DoE director of Chittagong metropolitan, slapped the fine on the errant lighter vessel “Desh-1” following a hearing held at the DoE office on Sunday.

The errant lighter vessel was also asked to pay the fine without any delay. DoE assistant director Sangjucta Das Gupta told the Dhaka Tribune that a team from the DoE visited the spot on Saturday and found heavy fuel oil spilled into the river. “Later, the DoE issued a notice to the owner of the errant lighter oil tanker to attend a hearing. The owner of the lighter vessel was fined with Tk3 crore for polluting the environment by spilling heavy fuel oil,” added the DoE official.

The accident took place at the river’s Padma Jetty on Friday when Khulna bound oil tanker Desh-1 carrying 1200 tons of diesel collided with vegetable oil tanker City-38 which was anchored at Padma jetty.

Following the accident, the port authorities seized the vessels and handed those over to Bangladesh Coast Guard.

Source: dhakatribune.com, 25 October 2019

Maritime industry seeks solutions to limit pollution

Shipowners say they are trying to cut their heavy-polluting industry's impact on the environment by using cleaner energy—but some have stalled over limiting the speed of ships.

Led by the International Maritime Organization (IMO), the industry is considering several options to replace so-called heavy fuel oil that propels over 60,000 vessels, including tankers, used in the global transportation of goods. Last week, the IOM met in London to discuss options with other industry players. “The IMO's ambition can only be realised with the development and application of technological innovation and the introduction of alternative fuels, which means low- or zero-carbon fuels should be made available soon,” said its secretary general Kitack Lim.

French companies are driving the development of new ships that can run on less-polluting liquefied natural gas, but that does require suitable storage facilities and engines. The new technology is gaining support from energy majors, such as Royal Dutch Shell. "Maritime transport is very polluting and yet is the last sector not to have been regulated," Faig Abbasov of Belgian NGO Transport and Environment told AFP.

Maritime transport accounts for 2.3 percent of CO₂ emissions, according to Armateurs de France representing shipping companies. This compares with 2.0 percent for air transport, according to the International Civil Aviation Organization. The IMO has in the meantime decided that from next year sulphur content in heavy fuel oil will be cut to 0.5 percent from 3.5 percent. This is expected to be achieved by the use of "scrubbers", or exhaust cleaning systems fitted to ships, that reduce the amount of sulphur emitted into the environment.

Reduce the speed

Meanwhile, a large section of the French maritime sector recently voted to limit pollution by reducing ships' speed, a move supported by President Emmanuel Macron. The ecological benefit is exponential: a tanker that lowers its speed from 12 to 11 The reduction reaches 30 percent if it travels at only 10 knots, according to the French Ministry for the Ecological and Inclusive Transition.

"Reducing vessel speed is one of the options on the table, but it's not the only one," said Hiroyuki Yamada, director of the marine division within the IMO. "This measure is pushed by some shipowners but not by all," he added. "Our role is to put in place effective measures that can provide more flexibility." Shipowners are yet to be convinced, however. "It's first and foremost a question of investment," said Philippe Renaud at CMA CGM Group. "If we reduce speed, we will need more ships." And to add "a longer journey increases storage time and results in additional cost for customers", he noted.

The issue of reducing speeds will feature at the 75th session of the Marine Environment Protection Committee between November 11-15. The French maritime sector is hoping for a possible vote in favour of the measure in 2020, for implementation by 2023. "The shipping industry is going to change, because we have to address climate change," said Edmund Hughes, head of air pollution and energy efficiency at the IMO insisted last week. "We have to phase out CO₂ emissions as soon as possible," he insisted.

Source: phys.org, 21 October 2019

Marine heat waves kill corals quicker than previously thought

Australia's Great Barrier Reef, a World Heritage site, is one of the most iconic coral reefs. But it's in serious trouble due to bleaching: a new Australian Government report has officially downgraded the reef's outlook from poor to very poor.

Coral bleaching is caused by global heating and leads corals to expel vital algae that live in its tissues, resulting ultimately in the death of these animals. Now, according to scientists, there is an even more deadly threat—marine heatwaves—which destroy corals much more rapidly than previously thought.

A new study indicates that marine heatwaves should be considered a distinct biological phenomenon from bleaching events on coral reefs. What happens is that in warmer water, within days, corals attract bacteria which speed up the breakdown of corals, says the study.

The New Caledonia barrier reef is also a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage site and the second largest in the world after the Great Barrier Reef. A study carried out there by the Institut de Recherche pour le Développement and supported by UNEP, is trying to understand resilience to coral bleaching.

Corals there have been observed to glow in luminescent colours just before they die, a phenomenon that has sparked a Glowing Campaign in which UNEP has partnered with The Ocean Agency, among other leading ocean conservation organizations.

The campaign highlights the fluorescing phenomenon that some corals experience to protect themselves during extreme ocean heatwaves and encourages designers to use three newly created “glowing colours” in their art to draw attention to the issue.

Nutrient and plastic pollution

Global heating is not the only stressor of corals and the marine environment. Pollution is also a major cause of the unprecedented levels of decline in reef health and coral cover across the globe. Plastic makes up a sizeable proportion of marine pollution. It can be found in all the world's oceans, but it is thought to be in highest concentration in coastal areas and reef environments, where vast amounts of litter flow in from land-based sources.

A 2019 UNEP study *Plastics and shallow water coral reefs. Synthesis of the science for policy-makers* identifies a number of knowledge gaps that need to be addressed in order to strengthen the scientific evidence base for action on marine plastics that

impact coral reefs, and to achieve the targets set by the global community. These gaps include understanding the impacts of leaching chemicals from plastics in coral reef environments and exploring the level of risk microplastics have on reef organisms.

Our current understanding is that although they are significantly damaging, plastics are not the number one threat to coral reefs,” says Grimsditch. “Nutrient and wastewater pollution can cause more damage to coral reef ecosystems by promoting the growth of macroalgae (seaweed) and coral diseases... throwing the whole system off balance.” As UNEP’s 2017 report, Wastewater pollution on coral reefs points out, “more than 80 per cent of marine pollution originates from land-based wastewater and sediment and nutrients delivered via waterways.”

Source: unenvironment.org, 23 October 2019



Mamallapuram's Chinese links set to give a fillip to Modi-Xi summit

As preparations are on the upswing for the meet between Prime Minister Narendra Modi and Chinese President Xi Jinping, a peep into archeological evidences shows links had existed about 2000 years ago between Mamallapuram, the venue of the summit, and China.

While expectation is in the air in view of the India-China meet in Mamallapuram next week, the coastal town's ties with the dragon land is ancient and it is set to give a historic fillip to the summit. The mighty Pallavas, whose flourishing sea port was Mamallapuram for a long time, had a relationship with China and had even sent envoys there during their rule.

As preparations are on the upswing for the meet between Prime Minister Narendra Modi and Chinese President Xi Jinping, a peep into archeological evidences shows links had existed about 2000 years ago between Mamallapuram, the venue of the **summit**, and China. "Celadon ware (pottery) of the first, second Century (Common Era, about 2000 years ago) recovered on the eastern coast of Tamil Nadu gives us a clue to Chinese maritime activities," noted archeologist S Rajavelu told *PTI*.

Such finds and other archaeological evidences can be used to infer that regions, including coastal areas of present day Mamallapuram and Kancheepuram district had links with China, he said. Chinese coins dating to the same period were also found in Tamil Nadu, he said, adding they showed the ancient trade links to the dragon country.

The ancient Tamil work "Pattinapalai," a post Sangam period work, cites the anchorage of a Chinese ship on the eastern coast of ancient Tamil Nadu. Authored by Urutthiran Kannanar, the work refers to a ship "tungu naavay," in Tamil, which is nothing but a big Chinese vessel "Zunk," the archaeologist, who was formerly with the Archaeological Survey of India, said.

Also the Chinese text the "Han annals" has a reference to contacts with the Tamil country. Emperor Wei (circa 185-149 BCE) encouraged traders and the Chinese text Ch'ien Han Shu of the first century refers to Kancheepuram as "Huang-Che" and Chinese kings had sent presents to the then ruler of Kancheepuram, he pointed out.

"If you look at the Vayalur inscriptions (near Mamallapuram), they say that Pallavas had sent envoys (6-7th Century AD) to China. Similarly Tamil inscriptions have been

found in the dragon country as well,” Rajavelu, also a former Professor of Archaeology with the Tamil University at Thanjavur, said.

Chinese monk Hiuen Tsang visited Kancheepuram in the seventh Century AD and he no doubt reached the ancient port town of Mamallapuram and then continued his journey to the temple town, he said. Keen on understanding more about Buddhism and to get original texts of his religion, Hiuen Tsang visited Kancheepuram, which was then a flourishing Buddhist centre, as well as a hub of learning, he said.

Ancient Indian sources indicate that Kancheepuram was referred to as a “kadiga,” which meant a “university,” and Tsang was attracted to Kancheepuram, the professor of archaeology, now working with Alagappa University, said.

The 2004 Saluvankuppam excavations in Kancheepuram district also make it clear that Mamallapuram was a port town even during the Sangam era about 2000 years ago, he pointed out. The second informal summit between the two leaders will be held this week at Mamallapuram.

Source: thehindu.com, 07 October 2019

What does refusal to sign the Osaka Track mean for India?

India recently started sharing maritime data with countries in the Indian Ocean Region. The Information Fusion Centre is actively interacting with the maritime community and has already built linkages with 18 countries and 15 multinational/maritime security centres. On that note, it is worth relooking at India’s approach to data sharing and cross-border data flows.

Technology is now a variable that defines relations between countries. Over the year, we have seen an increasing number of instances that reaffirm the existence of high-tech geopolitics. First, there was the US-imposed ban on Huawei technologies. Then the Americans considered imposing caps on H1-B visas for countries that implemented data localisation. One of the most important recent developments was at this year’s G20 summit where Japan’s Shinzo Abe presented the idea to have a multilateral broad framework for the sharing of data. It is worth analyzing India’s response to it.

The agreement is called the Osaka Track. The idea is that member countries should be able to share and store data across borders without having to worry about security risks. The agreement has many notable signatories, such as the US, EU, and China. It is India’s response that is interesting. India, for better or worse, has not been big on data sharing. So much so, that recent news claimed that the government was considering getting a domestic messaging service for official communication. With this context in mind (as well as the draft e-commerce policy, data protection bill, and the RBI data localization notification), India refused to join the Osaka Track as a

signatory. The questions for India here are, what does this mean for the future of Indian data, and how India is likely to conduct itself in this world of high-tech geopolitics?

India's reasons for not signing the pact are two-fold. Firstly, as the sentiment goes, data is national wealth. The idea here is to keep all data possible within Indian borders. Much like you would do be inclined to do with actual wealth. Secondly, as an official stated, India needs to better understand what free flow of data might mean. Having said that, India then wants to look at its domestic requirements and would like to see the issue of cross-border data flows discuss the same on a WTO (World Trade Organisation) platform. What the foreign policy is broadly saying here (to my understanding) is that it is not in India's best interests to share its data right now. However, once the government has a better understanding of the Osaka Track, they might reconsider.

In the broader global context, the Osaka Track is a step towards an emerging pattern. Data flows are likely to be increasingly regulated through economic blocs and not nations. Europe's General Data Protection Regulation and Convention 108+ are the best examples of this. The Osaka Track was an opportunity for India to follow this trend and facilitate trans-border data flows. India's rejection of it does not mean that other opportunities will not present themselves. Should India decide that data sharing is in its best interests, there are other platforms to make it happen on its own terms. One option to pursue this route would be to establish a data sharing law and standards under Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC). Sharing costs of storage and following common processing standards would give India an edge in data geopolitics. Just because it would make powerhouses such as the US rethink applying sanctions to all of BIMSTEC instead of India alone. BIMSTEC, of course, is also interchangeable. India could take the lead and establish a data sharing policy with SAARC (South Asian Association for Regional Cooperation) or with a different combination of countries it might prefer. The big decision here is whether or not India wants to share its data with anyone under any circumstances.

If India is to treat data as wealth and not share it across borders, it may be time to consider what that might mean. An increasing number of government policies are treating data as an asset that should not be shared. Doing so is likely to come at the cost of being ostracised by the US. However, if India is to go ahead with this, it makes sense as citizens to ask the government how data is going to be used to achieve progress.

While there are a lot of policy proposals on how data should be regulated in India, there aren't many on how it is going to be used for economic development. Sharing data with countries and/or companies can often crowdsource the initiative for development, as it seems to be doing for security at The Information Fusion Centre. As Microsoft's collaboration with the Telangana government proved by using data to optimise agricultural yields. However, if India decides to cut itself off as evidenced by

the refusal to sign the Osaka Track, it is best to ask how crowdsourcing the initiatives will be substituted. While options to do so domestically might exist (such as releasing community data for entrepreneurs and Indian companies), there need to be indicators that they are being considered or carried out on a national level. Because if data is national wealth, then there needs to be a plan on how it should be used to achieve economic development and progress for the nation.

Source: asianage.com, 16 October 2019

Cruise missiles suspected in Saudi oil infrastructure attacks

-Jeremy Binnie

There are indications that the 14 September attack on two oil facilities in Saudi Arabia were carried out using cruise missiles launched from Iraq or possibly Iran, US officials told journalists on the following day.

The US government released annotated Digital Globe (now Maxar) satellite imagery showing the aftermath of the attacks. The images were labelled as showing approximately 17 impact points at Abqaiq and at least another two at Khurais.

A senior US administration official said the impact points showed the weapons approached from the west northwest, rather than Yemen, as claimed by the Iranian-backed Yemeni rebel group Ansar Allah (Houthis). “It is very difficult to see how these things could have come from anywhere but Iran or Iraq,” CNN quoted the official as saying.

The official also said there was Saudi intelligence suggesting cruise missiles were involved but said the US had not yet corroborated that information.

Reuters and Dow Jones ran similar reports seemingly based on the same briefing. “There is reason to believe that we know the culprit, are locked and loaded depending on verification, but are waiting to hear from the Kingdom [of Saudi Arabia] as to who they believe was the cause of this attack, and under what terms we would proceed!” President Donald Trump tweeted later on 15 September.

Tehran has denied any involvement.

Ansar Allah claimed it carried out the attack using 10 unmanned aircraft and presented it as a continuation of its strikes against Saudi Aramco oil facilities, noting the one carried out against the Shaybah complex near the border with the United Arab Emirates (UAE) on 17 August.

Source: janes.com, 16 September 2019

Saudi air defences ill-prepared for low-level attacks

The attack on Saudi Arabia's Abqaiq and Khurais oil facilities on 14 September prompted criticism of the air defences that the kingdom has spent billions developing since the 1990s, but failed to intercept any of the 18 unmanned aerial vehicles (UAVs) or seven cruise missiles involved.

Iran denied involvement for an attack claimed by its Yemeni allies, but its foreign minister nevertheless gloated about the failure. "Perhaps it [the United States] is embarrassed that hundreds of billions of dollars of its arms didn't intercept Yemeni fire", Javad Zarif tweeted on 17 September.

Russian President Vladimir Putin saw the attack as a sales opportunity. "[The Saudis] need to make clever decisions, as Iran did by buying our S-300, as [Turkey] did by deciding to buy the most advanced S-400 air defence systems," he said during a visit to Istanbul. "These kinds of systems are capable of defending any kind of infrastructure in Saudi Arabia from any kind of attack."

These Russian systems have a key advantage over the Patriot that many US allies have acquired at massive cost as they can detect and engage targets coming from any direction while the AN/MPQ-53/65 radar has a field of view of 120°.

That has been a serious problem for the Royal Saudi Air Defence Forces (RSADF) since 2015, when missile and unmanned aerial vehicle (UAV) threats from Yemen began to emerge in addition to the existing ones from Iran. Struggling to cover threats from both directions, the RSADF deployed a Patriot battery to protect the Abqaiq oil processing facility in late 2018 or early 2019, Jane's research has confirmed.

With its AN/MPQ-53/65 orientated towards the west southwest, this battery should be able to intercept any ballistic missiles coming from Yemen. However, it is poorly sited to cope with threats from the north, the direction that the Saudi military says the UAVs that attacked Abqaiq came from. US officials have pointed to satellite imagery showing the impact locations as indicating the terminal approach was actually from the west northwest. Even so, they probably would not have entered the AN/MPQ-53/65's field of view until they were less than 10 km away, leaving very little time to react. That vulnerability could arguably have been mitigated if the Patriot was deployed on higher ground further north, but still facing Yemen.

Nevertheless, Abqaiq is also protected by short-range air defences (SHORAD), including a Skyguard: a radar-controlled anti-aircraft gun system designed to intercept cruise missiles and UAVs. A photograph from a multinational exercise held in the kingdom in March indicated the Saudis have upgraded at least some of its Skyguards with new radars. Two Shahines - Saudi Arabia's improved version of the French Crotale short-range surface-to-air missile system - also appear to have been deployed at Abqaiq at the time of the attack.

However, these systems failed to intercept any of the 18 UAVs that hit Abqaiq in the early hours of 14 September. Compared with jet-powered cruise missiles, these would have been relatively slow-flying targets, much like the drones routinely used for air defence training.

A lack of early warning may have contributed to the SHORAD crews' lack of preparedness. Saudi Arabia has a chain of early warning radars monitoring its northern border but the ones at Haftar al-Batin and Al-Nuayriyah are 240 km apart, leaving plenty of space for low-flying UAVs and cruise missiles to infiltrate into the kingdom without being seen. However, the Saudis could cover such gaps by using their E-3A Sentry early warning and control aircraft to focus on low-flying threats in vulnerable sectors.

It would seem strange if the Sentries were not performing this role and the SHORAD crews at Abqaiq were not on high alert given that a threat from the north had already emerged. The Saudi military has said the same type of Iranian delta-wing UAV that hit Abqaiq was also used in the attack on the kingdom's east-west pipeline on 14 May, which was launched from the north, rather than Yemen as claimed. US officials have said that attack came from southern Iraq.

The Saudi failure to respond adequately to the new threat from the north raises the possibility that it will now use its existing assets to prevent further attacks. At the same time, even with early warning, the extensive SHORAD around Abqaiq would have struggled to shoot down all 18 UAVs and Saudi Arabia has many other sites, albeit less critical ones, that need defending.

Source: ihsmarkit.com , 20 September 2019

South China Sea: The Disputes and Southeast Asia's Culture of International Law

-Pham Ngoc Minh Trang

Disputes in the South China Sea are not as complicated as they may seem. Most observers usually look at the South China Sea disputes with pessimistic eyes. After capturing the attention of the world in 2009, when China for the first time officially introduced the nine-dash-line map, the conflicts in the region has continued to grow, tensions between the interested parties increasing. Furthering tensions, China ignored the judgment of an international tribunal in a 2016 suit against Beijing's expansive claims. Thereafter, some observers have claimed that the disputes are too complicated to settle by law. But such pessimism ignores the fact that Southeast Asian countries have a culture of heeding international law. Whether judging from a realist lens or not, the law remains a useful tool for small countries to protect their interests.

Not So Complicated

From a legal perspective, disputes in the South China Sea are not as complicated as they may seem. There are two reasons for that statement.

First, all the claimants in the South China Sea – Brunei, China, Malaysia, the Philippines, and Vietnam – are parties to the two most important legal mechanisms dealing with multilateral disputes: the United Nations Charter (UN Charter) and the United Nations Convention on the Law of the Sea (UNCLOS). Under the regimes of these conventions, state parties have the obligation to settle their disputes by peaceful means, such as negotiation, regional arrangements, international arbitration, or courts/tribunals. Unlike the UN Charter, UNCLOS goes a step further and prescribed detailed methods of solving conflicts at sea for its parties in Chapter XV. In general, the consent of states is placed at the center of all dispute settlement mechanisms. However, UNCLOS particularly opens a chance for a state party individually to bring its conflict with another state before an international court or arbitration when it comes to certain types of disputes. These are called compulsory procedures, entailing binding decisions in section 2 of chapter XV of UNCLOS. When a state signed and ratified the Convention, it is understood that it has agreed with this settlement means in advance. This was the strategy the Philippines employed in its litigation against China in the South China Sea arbitration.

The second reason is that the whole situation in the South China Sea can be classified into specific legal categories, which could be settled separately by law.

The first category is related to conflicting claims of sovereignty over offshore maritime features. China and Vietnam claim sovereignty over all the features in the Paracels. For the Spratlys, the claimants include China, Brunei, Malaysia, the Philippines and Vietnam.

The second category concerns normal maritime boundary demarcation exercises of littoral countries. Coastal states usually have maritime zones overlapping with their opposite and/or adjacent neighbors, and so do the claimants in the South China Sea. For example, Vietnam and Malaysia have overlapping exclusive economic zones (EEZ) and continental shelves, or Brunei when extending its EEZ and continental shelf has recognized the future delimitation of boundaries with neighbors in the future. And there is China, which claims a maritime zone comprising 80 percent of the South China Sea within the infamous nine-dash-line. This claim, however, was rejected by the arbitral tribunal in the case between the Philippines and China in 2016.

Another group of disputes is related to the legal status of maritime feature in the South China Sea. According to UNCLOS, offshore features can be classified as “islands,” “rocks” or “low-tide elevations” with different legal effects. The Tribunal in the South China Sea case decided that all the features in the Spratlys Islands are not “islands.” They are either “rocks” or “low-tide-elevations,” and while “rocks” can

generate a 12 nm maritime zone around them, “low-tide-elevations” are unable to have any independent maritime zone, regardless of being made into artificial islands or not.

The last groups of disputes mostly involve China. China’s artificial island building activities have harmfully affected the maritime environment in the area; in addition, China has disturbed economic activities of Malaysia, the Philippines and Vietnam in their EEZs and continental shelves.

All of the above-mentioned issues are addressed by international law, from treaty laws to customary international law. Except for the first two groups of disputes, which require explicit consent of both parties in order to bring them before an international judicial body, the rest do not need the same requisition. In fact, they fall neatly into the compulsory procedure under part XV of UNCLOS. More significantly, according to the decision on the jurisdiction of the Arbitral Tribunal in the South China Sea case, the dispute concerning the legal status of maritime features can be distinguished and settled separately from the dispute of their sovereignty.

In short, some disputes in the South China Sea can be settled first, paving the way for dealing with the more difficult issues later. In addition, not all issues in the South China Sea involve China; hence, other disputing parties can work together to solve problems between themselves. Fortunately, for those countries, international law is always an option.

Southeast Asia’s Culture of International Law

Except for China, the other claimants in the South China Sea (Brunei, Malaysia, the Philippines and Vietnam) are members of the Association of Southeast Asian Nations (ASEAN), and the countries in this organization have a culture of international law. For example, Singapore and Malaysia asked the International Court of Justice (ICJ) to make the final decision on problems concerning sovereignty over maritime features. Similarly, Indonesia and Malaysia have also settled a sovereignty dispute over some islands by the ICJ. Myanmar and its neighbor, Bangladesh, brought their maritime delimitation issues to International Tribunal for the Law of the Sea (ITLOS). The Philippines made history when initiating a case against China before an international arbitral tribunal, marking the first lawsuit about the South China Sea disputes. Furthermore, the member states of ASEAN have also approached to maritime problems, especially maritime boundary issues, with good faith, flexibility and modest cooperation.

Those countries also have a convenient tool to solve their regional disagreements: ASEAN. Indeed, the friendly and partnership environment of a myriad ASEAN meetings could be better for negotiation between relevant disputed states. Besides, according to article 23 of the ASEAN Charter, member states can request the

chairman or the secretary-general of ASEAN provide good offices, conciliation and mediation.

Therefore, it is tenable to argue that ASEAN countries should settle disputes among themselves in the South China Sea first, especially delimiting their maritime borders. This practice will help them to build up more weight on the negotiation table with Beijing. Another lawsuit against China in the South China Sea, regardless of its consent, is also a possibility. Then, they will achieve certain pressures making China reconsidering its illegal activities at sea.

Source: thediplomat.com, 22 October 2019
