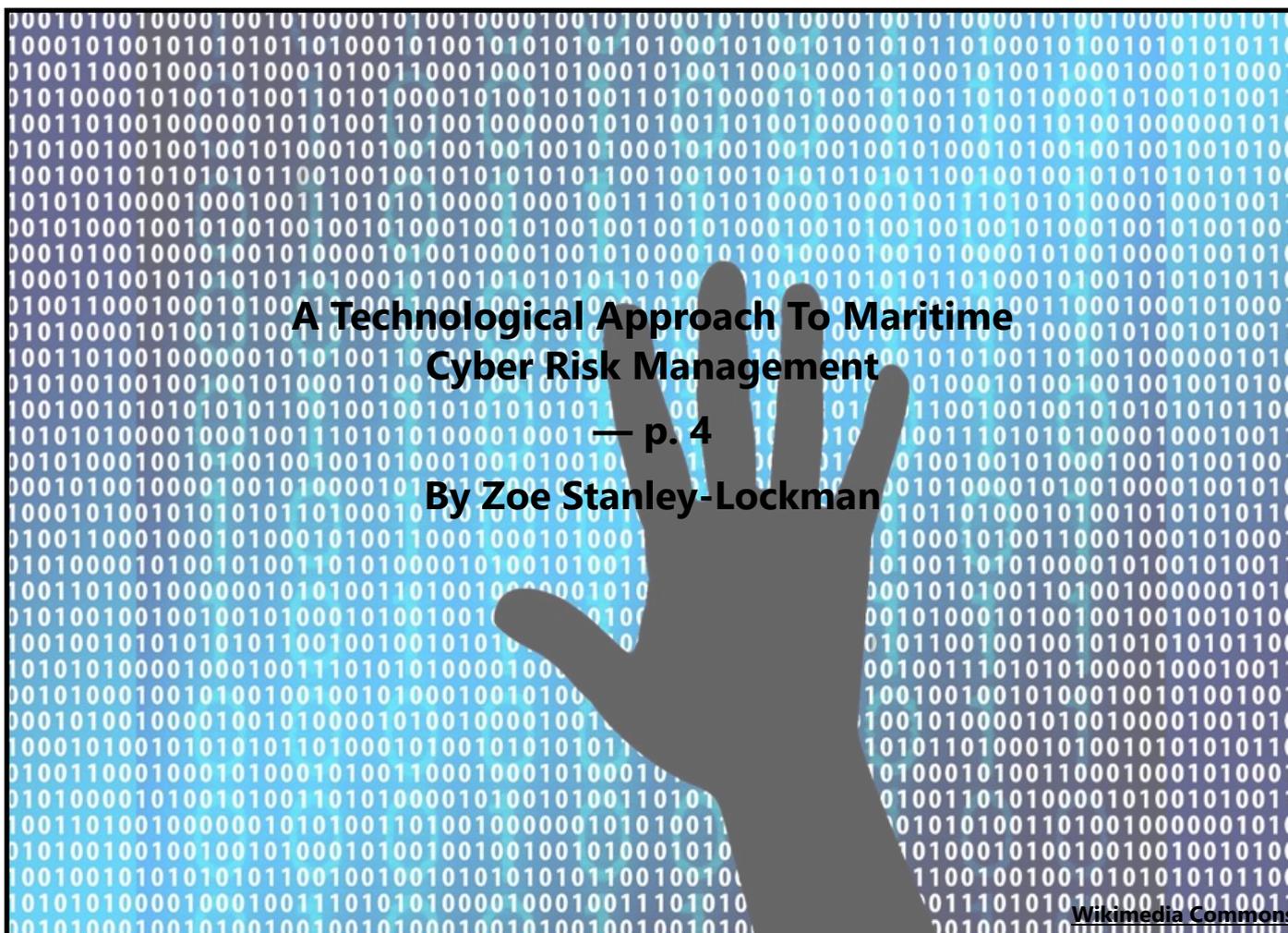


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## NOTES

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## **Maritime Security Programme, RSIS**

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Within the shipping industry, many regard the cyber attack last June on Maersk as a 'wake-up call' to the real harm incurred by cyber attacks. Unfortunately the situation remains groggy. Whether as an attractive target or collateral damage, the shipping industry is only going to become more vulnerable to cyber attacks as they increase in frequency, scale, and speed. Through unmanned vessels, port automation, Internet of Things-connected devices, or other forms of digitisation, emerging technologies appear to only create more vulnerabilities for hackers to exploit.

While this seems bleak, some of the technologies constitutive of the Fourth Industrial Revolution may also be seen as partial antidotes to cyber attacks – and, as such, should be considered in the maritime domain today. Technologies in and of themselves should not be seen as a silver bullet. Effective cyber risk management today depends upon various factors, notably behavioural change to strengthen cyber hygiene of seafarers, a global maritime 'commons' for intelligence sharing and analysis, a legal and regulatory framework, and marine insurance modernisation. Nonetheless, the maritime industry may consider complementing those elements with technologies to future-proof their own vulnerabilities from abounding cyber threats.

#### **Cybersecurity software**

In a recent survey, half of seafarers responded that they would not know how to identify a cyber issue onboard – the first step in managing cyber risks. Further to training and risk awareness for crew, leveraging software may simplify such tasks.

One such service is Fleet Secure, recently co-developed by Inmarsat and Singapore Telecommunications (SingTel) to manage cyber risks. Described as "the maritime industry's first fully-managed service for identifying vulnerabilities in on-board technology and protecting ships from widespread cyber attacks", systems such as Fleet Secure may deter, detect, and isolate cyber threats in real-time. Built-in automated reporting mechanisms could also help meet record-keeping obligations and breach notification regimes per current and future regulations.

#### **Blockchain**

Another technology with potential to mitigate cyber risks is blockchain, which uses a decentralised ledger for secure, fast, transparent transactions. For hackers, decentralisation means having to attack every node in

a network, rather than using only one entrance point with a cascading effect on other linked systems. Emerging maritime applications of blockchain may yield benefits for cyber risk management. Importantly, the shipping industry is already interested in blockchain to optimise on issues such as overcapacity and delivery speed, with cybersecurity is an added benefit.

In May 2018, the Singapore International Chamber of Commerce and vCargo Cloud launched the world's first platform that uses blockchain authenticates trade documents called certificates of origin. Down the road, the shipping industry could adopt blockchains to secure their networks vis-à-vis port management and supply chain management. While not a cybersecurity panacea, blockchain is far more secure than other authentication technologies currently used.

#### **Alternatives to GPS**

Effective navigation depends upon the global positioning system (GPS), automated identification system (AIS), and Electronic Chart Display and Information System (ECDIS) – all of which are vulnerable to hacking. Interference, notably in the form of jamming or spoofing these systems, threatens free and safe navigation. Apart from certain niche capabilities such as hemispherical resonator gyroscopes, the main systematic alternative to GPS is the creation of a local satellite system that reduces reliance on US system. They would still be hackable, but it is more likely that the US system would receive the brunt of infiltration attempts.

Japan, for instance, aims to have a constellation of seven satellites in orbit to halt dependence on US GPS by 2023. This will make geo-location more accurate for autonomous vehicles and vessels, both on land and presumably at sea. With greater navigating accuracy than offered by the US system, strengthening the strategic autonomy to deter spoofing or jamming of maritime systems is an added benefit.

#### **Conclusion**

All in all, widespread adoption of any of these mitigating technologies could be the radical reaction to mounting cyber threats faced by the shipping industry today. When combined alongside other regulatory, insurance, and information sharing measures, these technologies could become force multipliers to ensure that speed does not outpace security in systems used by the shipping industry.



THE PHILIPPINES | 9 AUGUST | RAPPLER

### **Philippine Navy successfully tests its first missile system**

The Philippine Navy, successfully tested its first missile system which was aboard the Multi-Purpose Attack Craft (MPAC) Mk III as it conducted its Sea Acceptance Test (SAT) near Lamao Point in Bataan.

[Full Report](#)

MALAYSIA | 1 AUGUST | XINHUA

### **Construction of littoral mission ship for Malaysia begins in Wuhan**

Construction of a littoral mission ship (LMS), the first of its kind that China will build for Malaysia, began in Wuhan, capital of central China's Hubei Province on Tuesday.

[Full Report](#)

INDIA | 2 AUGUST | THE ECONOMIC TIMES

### **Naval version of Tejas undergoes successful tests**

The naval version of the indigenously built Tejas Light Combat Aircraft today underwent a series of successful tests to check its capability to land on an aircraft carrier, officials said.

[Full Report](#)

UNITED STATES | 4 AUGUST | REUTERS

### **U.S. pledges nearly \$300 million security funding for Indo-Pacific region**

U.S. Secretary of State Mike Pompeo pledged on Saturday to provide nearly \$300 million in new security funding for the Indo-Pacific region, as China forges ahead with plans to bolster its engagement in the region.

[Full Report](#)

JAPAN | 10 AUGUST | THE ASAHI SHIMBUN

### **Aegis Ashore to push fiscal 2019 defense outlays to a new high**

The Defense Ministry plans to seek a record budget of about 5.4 trillion yen (\$48.6 billion) for fiscal 2019 to finance purchases of expensive U.S.-made equipment including the Aegis Ashore ballistic missile defense system.

[Full Report](#)

*Continue on page 6*

NORTH KOREA | 17 AUGUST | YONHAP

### **Some activity seen at N.K. shipyard capable of building ballistic missile subs: 38 North**

A North Korean shipyard capable of building ballistic missile submarines appears to be somewhat active, but it's unclear whether a new submarine is being built, according to a U.S. website monitoring the regime.

[Full Report](#)



SOUTH KOREA | 17 AUGUST | YONHAP

### **Navy mulls possibility of operating F-35B aboard new amphibious assault ship**

South Korea's Navy has put up a public notice of tender for a research project to explore the possibility of operating F-35B stealth aircraft aboard its amphibious landing ship, officials said Friday.

[Full Report](#)

TAIWAN | 21 AUGUST | TAIWAN NEWS

### **Experts from Japanese companies Mitsubishi, Kawasaki to join Taiwan submarine project**

Retired experts from Japan's Mitsubishi and Kawasaki Heavy Industries will visit Taiwan next month to present a report on Taiwan's domestic submarine program, reports said Tuesday.

[Full Report](#)

TAIWAN | 22 AUGUST | TAIWAN NEWS

### **Taiwan Air Force to transfer P-3C bombers from Pingtung to Hualien**

In light of the increasing tensions created by China's political campaign of political suppression, Taiwan's Ministry of National Defense (MND) is taking added precautions against the possibility of an attack.

[Full Report](#)

INDIA | 25 AUGUST | THE PRINT

### **Modi govt okays buying 111 helicopters for desperate Indian Navy**

India opened up a market for naval helicopters Saturday and announced a new policy that will involve manufacturing them with a private sector partner.

[Full Report](#)

CHINA | 26 AUGUST | XINHUA

### **China Focus: China-made large amphibious aircraft AG600 starts tests on water**

China's independently-developed large amphibious aircraft, the AG600, has completed trial ground flights and entered a new test phase on the water-surface.

[Full Report](#)

UNITED STATES | 27 AUGUST | USNI NEWS

### **VIDEO: F-35Cs Operating in First Joint Strike Fighter Integrated Air Wing Test Aboard USS Abraham Lincoln**

The Navy's F-35C Lightning II Joint Strike Fighter has been incorporated into a carrier air wing's cyclic flight operations for the first time alongside aircraft from Carrier Air Wing 7.

[Full Report](#)

THE PHILIPPINES | 31 AUGUST | RAPPLER

### **Lorenzana backtracks on Russian submarines**

Defense Secretary Delfin Lorenzana has backtracked on the urgency of acquiring Russian submarines amid concerns raised against the plan.

[Full Report](#)

CHINA | 31 AUGUST | SCMP

### **China's Type 001A aircraft carrier starts more advanced testing as sea trials begin in earnest**

China's first home-grown aircraft carrier is likely to be carrying out more advanced tests as the next phase of its second sea trial begins, military experts said.

[Full Report](#)

TAIWAN | 31 AUGUST | TAIWAN NEWS

### **Taiwan Navy proposes NT\$31.6 billion for fast attack missile boats**

The Navy has submitted a request for NT\$31.6 billion (US\$1.02 billion) to build 50-ton fast attack missile boats, as part of the national annual defense budget which was submitted for legislative review on Friday.

[Full Report](#)



ASEAN-CHINA | 3 AUGUST | STRAITS TIMES

## Inaugural Asean-China Maritime Exercise held at RSS Singapura - Changi Naval Base

China and the 10 Asean members states held the first ever Asean-China Maritime Exercise on Thursday (Aug 2) at RSS Singapura - Changi Naval Base, with plans to hold a field exercise in China involving navies from all 11 countries later in October.

[Full Report](#)

INDO-PACIFIC | 4 AUGUST | VOICE OF VIETNAM

## EAS Foreign Ministers Meeting agrees to reinforce marine cooperation

The 8th East Asia Summit (EAS) Foreign Ministers' Meeting, which was held in Singapore on August 4, agreed that maritime cooperation will be one of the focuses the EAS nations are going to promote in the time ahead.

[Full Report](#)

THE PHILIPPINES | 8 AUGUST | RAPPLER

## LOOK: PH Coast Guard's French-made patrol boat arrives in Subic

The Philippine Coast Guard's (PCG) first of 4 new patrol boats from France arrived in Subic Bay Seaport on Wednesday, August 8.

[Full Report](#)

MALAYSIA | 9 AUGUST | THE STAR ONLINE

## High seas action: Sea gypsies throw fish bomb at cops in escape bid

A team of marine policemen was almost killed when sea gypsies threw a fish bomb at their pursuers in waters off Lahad Datu in eastern Sabah on Tuesday (Aug 7).

[Full Report](#)

THE PHILIPPINES | 10 AUGUST | PHILIPPINE NEWS AGENCY

## Troops occupy Tawi-Tawi island used as Sayyaf jump-off point

Government forces have occupied an island near the border with Malaysia to prevent it from being exploited as safe haven and staging point of piracy and kidnapping by the Abu Sayyaf Group (ASG).

[Full Report](#)

*Continue on page 8*

MALAYSIA | 11 AUGUST | THE STAR ONLINE

### **Esscom team foils kidnapping bid off Lahad Datu waters**

Malaysian security forces have foiled a possible kidnapping attempt on the crew of a tugboat by suspected kidnap-for-ransom groups on Friday (Aug 10).

[Full Report](#)

THE PHILIPPINES | 11 AUGUST | PHILIPPINE NEWS AGENCY

### **Coastguard wants Tawi-Tawi motorboats registered**

The Philippine Coastguard (PCG) is pushing for the registration of all types of watercraft in Tawi-Tawi as part of its anti-terror effort in the southern part of the country.

[Full Report](#)

CHINA-THE PHILIPPINES | 13 AUGUST | GMA NEWS

### **Patrols in disputed waters warned by Chinese on daily basis —AFP**

Philippine aircraft and vessels conducting routine patrols in the West Philippine Sea are confronted by Chinese military on a daily basis, Armed Forces of the Philippines chief of staff General Carlito Galvez Jr. said on Monday.

[Full Report](#)

MALAYSIA | 19 AUGUST | THE STAR ONLINE

### **Armed Thai pirates rob two fishing boats off Langkawi, 7 of 11 victims rescued**

After pirates armed with guns boarded two fishing boats near this island, police have rescued seven out of the 11 victims.

[Full Report](#)

MALAYSIA | 23 AUGUST | NEW STRAITS TIMES

### **Sabah urges MMEA to up enforcement, curb invasion by foreign fishermen**

The state government is urging Malaysian Maritime Enforcement Agency (MMEA) to increase enforcement to curb Vietnamese fishermen from encroaching the state's waters.

[Full Report](#)

VIETNAM | 25 AUGUST | VNEXPRESS

### **Internet connection in turtle mode as undersea cable snaps again**

Internet connections in Vietnam could crawl at snail's pace in the coming weeks after service on the Asia America Gateway (AAG) cable was disrupted at 2:30 p.m. on Thursday, the Vietnam News Agency reported, citing an unnamed source from a local internet

provider.

[Full Report](#)

VIETNAM | 28 AUGUST | VIETNAM PLUS

### **Vietnam Coast Guard – core force in national security protection**

National Assembly Chairwoman Nguyen Thi Kim Ngan has described the Vietnam Coast Guard as the core force in protecting national security, and maritime order and safety.

[Full Report](#)

JAPAN-SRI LANKA | 30 AUGUST | COLOMBO PAGE

### **Japan gifts two new patrol vessels to Sri Lanka Coast Guard**

Two brand new Fast Patrol Vessels (FPV), gifted by Japan joined the Sri Lanka Coast Guard fleet during a Commissioning Ceremony held at the Colombo Port on Wednesday (29) with the participation of the Japanese State Minister of Foreign Affairs Kazuyuki Nakane as the Chief Guest.

[Full Report](#)



THE PHILIPPINES | 30 AUGUST | INQUIRER.NET

### **PH Navy flagship runs aground in West PH Sea**

The Philippine Navy's flagship has run aground near Hasa-Hasa Shoal (Half Moon Shoal) while on routine patrol in the West Philippine Sea, the military said Thursday night.

[Full Report](#)

MYANMAR | 31 AUGUST | MYANMAR TIMES

### **'Ghost ship' runs aground off Thongwa**

A mysterious container ship with no sailors or cargo on board ran aground off the coast of Thongwa township in Yangon Region on Thursday, and a navy team is searching the vessel, the police said.

[Full Report](#)



HONG KONG | 30 AUGUST | SEATRADE MARITIME NEWS

## Hong Kong planning tax incentives for marine insurers

Hong Kong is planning a number of tax incentives to promote marine insurance, reinsurance and specialty insurance as the city tries to make up lost ground in the fight with Singapore for regional business.

[Full Report](#)

INDONESIA-JAPAN | 1 AUGUST | JAKARTA GLOBE

## Japan to Help Build Fish-Processing Centers in Indonesia

The government will use a grant from the Japan International Cooperation Agency to build integrated marine and fishery centers on islands in Indonesia's six outermost regions to boost exports.

[Full Report](#)

CHINA | 3 AUGUST | SPLASH 24/7

## Cosco outlines 'dual-brand strategy' for OOCL

Fresh from sealing the \$6.3bn takeover of Hong Kong containerline OOCL last week Cosco has issued a Q&A on its website about how it intends to position the new acquisition, stressing that line will continue to have a separate identity and structure to its parent.

[Full Report](#)

JAPAN | 3 AUGUST | FISH INFORMATION AND SERVICES

## Govt to propose Pacific bluefin tuna quota increase

The government has announced plans to propose raising catch quotas for Pacific bluefin tuna in September, following an international body's recent estimate that it is feasible to increase catches by up to about 15 per cent from 2019, thanks to a recovery in the stock.

[Full Report](#)

MYANMAR | 6 AUGUST | THE IRRAWADDY

## Kyaukphyu SEZ Project Awarded to China for Lack of Options, Ex-Minister Says

Myanmar's government did not want Chinese investment in the deep-sea port and special economic zone (SEZ) projects in Rakhine State's Kyaukphyu, said U Kan Zaw, who served as minister for national planning and economic development under U Thein Sein's administration.

[Full Report](#)

VIETNAM | 8 AUGUST | NASDAQ

### **Vietnam's Vinalines to offer 4.89 mln shares in IPO on Sept 5**

Vietnam National Shipping Lines, a state-owned shipping firm, is seeking to raise around 4.89 trillion dong (\$210 million) from an initial public offering (IPO) next month, Saigon Securities Inc. said on Wednesday.

[Full Report](#)

SINGAPORE-AZERBAIJAN | 10 AUGUST | SEATRADE MARITIME NEWS

### **Keppel pulls plug on Azerbaijan yard**

Keppel Corp has effectively pulled out of Central Asia after dropping the Baku Shipyard, its last remaining facility in a region that was once touted as being full of oil and gas potential.

[Full Report](#)

SOUTH KOREA | 17 AUGUST | SPLASH 24/7

### **Seoul to provide financial support for Sinokor Heung-A merger**

South Korea's Ministry of Oceans and Fisheries has made plans to financially support the merger between two domestic containership operators Sinokor Merchant Marine and Heung-A Shipping.

[Full Report](#)

GLOBAL | 21 AUGUST | THE MAINICHI

### **Int'l catch documentation scheme eyed for Pacific bluefin tuna**

Japan and other major fishing countries will likely introduce an international documentation system to better keep track of Pacific bluefin tuna catches as a step against overfishing, sources with knowledge of the plan said Tuesday.

[Full Report](#)

INDIA | 23 AUGUST | PORT STRATEGY

### **Indian port reform bill still not passed**

A bill to overhaul the management of the major ports of India and ensure fair conditions across all the country's ports has not yet been passed, despite being pending since 2016. This is despite the fact the draft bill was approved in July.

[Full Report](#)

GERMANY | 24 AUGUST | MARINE LINK

### **Natural Ballast Set to Launch at SMM**

The new system BOS Natural Ballast set to launch at the SMM trade fair in Hamburg has been engineered to ensure that ballast water discharge standards are met at all times during the uptake and discharge.

[Full Report](#)

AUSTRALIA | 26 AUGUST | MARITIME EXECUTIVE

### **Australia to Ban Transshipment in Great Barrier Reef**

Australia's Queensland State government is preparing to ban transshipping in the Great Barrier Reef.

[Full Report](#)

ARCTIC | 29 AUGUST | SEATRADE MARITIME NEWS

### **IUMI calls for more infrastructure support on Arctic routes**

The change in ice conditions and recent rise in the use of the high Arctic as a trading route requires more infrastructure support to facilitate the provision of adequate insurance, the International Union of Marine Insurance (IUMI) has stated in a position paper.

[Full Report](#)



CHINA-EGYPT | 29 AUGUST | MARITIME LOGISTICS PROFESSIONAL

### **China Constructs New Terminal in Suez Canal**

China Harbour Engineering Company (CHEC) began the main phase of the construction of a new terminal basin in Sokhna Port south of the Suez Canal northeast of Egypt, said the state media Xinhua.

[Full Report](#)

BIMSTEC | 31 AUGUST | PROTHOM ALO

### **BIMSTEC leaders pledge cooperation on blue economy**

BIMSTEC leaders on Friday emphasised the importance of blue economy and agreed to cooperate in this sector for sustainable development of the region.

[Full Report](#)