

Edisi Ke 49/23

CAKAP TAKTIK MARITIM

PUSTAKMAR



**“Strategy Requires Thought,
Tactics Requires Observation.”**
-Max Euwe-



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“

Apa yang telah berlaku dan akan berlaku adalah perkara yang kecil jika dibandingkan dengan apa yang ada pada diri kita – Kept Murthi TLDM

”



PRAKATA

PEGAWAI MEMERINTAH

Salam Madani dan Salam Tahun 2023. Terlebih dahulu saya ingin merakamkan ucapan terima kasih kepada pihak pengurusan tertinggi TLDM yang telah memberi kepercayaan kepada saya menerajui PUSTAKMAR dan juga selaku penaung kepada penerbitan Majalah Cakap Taktik Maritim Edisi ke-49 tahun 2023.

Setelah bergelut dengan waktu, akhirnya Majalah Cakap Taktik Maritim Edisi ke-49 tahun 2023 dapat disiapkan dengan jayanya. Edisi kali ini merupakan inisiatif baharu dengan kolaborasi antara pihak TLDM bersama pihak akademik dari Universiti Teknologi Mara (UiTM) dan Universiti Islam Antarabangsa Malaysia (UIAM) dalam membentuk satu majalah yang menarik serta dapat membantu para pembaca memahami dan menghayati isi kandungan setiap penulisan.

PUSTAKMAR sentiasa menggalakkan warga *The Navy People* untuk menghayati dunia ilmu sekali gus dapat berkongsi idea dan diterjemahkan dalam bentuk proses kerja kelak. Usaha ini sedikit sebanyak dapat membina pembangunan modal insan yang kompeten dan berdaya saing. Tahap profesionalisme dan kompetensi warga TLDM sentiasa dititikberatkan oleh pengurusan tertinggi TLDM agar seiring dengan peredaran semasa.

Akhir kata, sekali lagi saya ingin menzahirkan ucapan jutaan terima kasih kepada semua pihak yang terlibat dalam penghasilan majalah ini dan berharap ia dapat menjadi satu wadah yang ikonik dalam perkongsian ilmu secara signifikan ke arah warga yang lebih berpengetahuan dan berkemahiran.

- *Strive For Victory* -

Kept Murthi a/l Subromoniam TLDM

Pegawai Memerintah

Pusat Taktik Maritim



Quotes In Our Thoughts

“If you are still doing the same old thing today, you are irrelevant”

Laksamana Tan Sri Abdul Aziz Hj Jaafar

“War is an instrument of national policy and military power is an option to gain political objective”

Karl Von Clausewitz

“Leadership is for everyone. Anyone responsible for supervising people or accomplishing a mission that involves other people is a leader. Even at the lowest level, you are a leader of leaders”

Laksamana Tan Sri Anwar Hj Mohd Nor

“An Individual must have confidence in himself and have no self-doubts; he must have confidence in his weapons; and further and most important, he must have faith and confidence in the leaders above him”

Rear Admiral John D. Bulkeley

“If you talk to a man in a language he understand, that goes to his head. If you talk to him in his languages, that goes to his heart”

Nelson Mandela

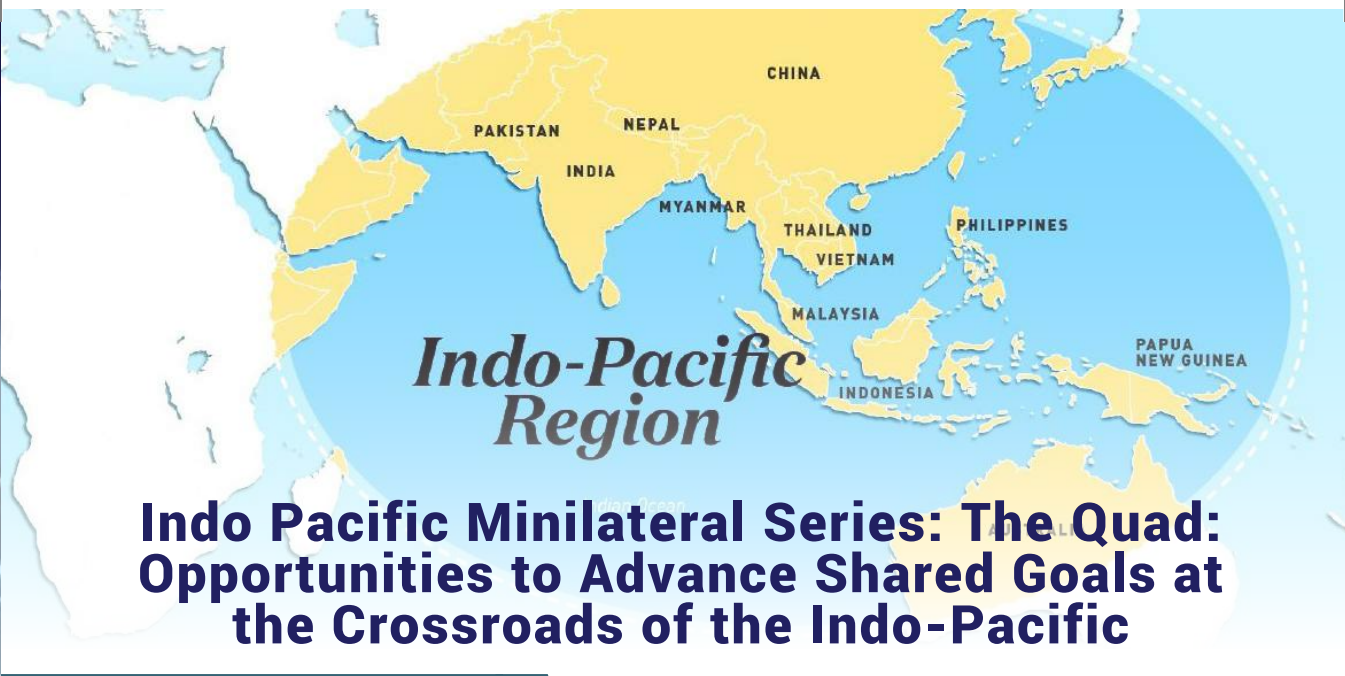
“The principal moral elements are: the skill of the commander, the experience and courage of the troops, and their patriotic spirits”

Karl Von Clausewitz

“A leader is one who sees more than others see, who sees farther than others see and who see before others see”

Leroy Eimes

‘STRIVE FOR VICTORY’



Indo-Pacific Region

Indo Pacific Minilateral Series: The Quad: Opportunities to Advance Shared Goals at the Crossroads of the Indo-Pacific

By: Cdr Ts Dr Muhamad Zafran Whab RMN

The Indo-Pacific is a geopolitical term referring to the enormous region, including the Indian Ocean and the Western and Central Pacific Oceans. Its strategic relevance, economic significance, and diversified political, cultural, and security aspects distinguish it. The phrase “Indo-Pacific” has recently acquired popularity to emphasise the interconnection and growing relevance of the Indian and Pacific oceans as a unified strategic theatre. It recognises the two regions growing economic, political, and security ties and the necessity for a holistic strategy to address the problems and opportunities they bring. The Indo-Pacific area is home to major global powers such as the United States, China, Japan, India, and Australia, as well as many other countries with vital economic and strategic interests. The Indo-Pacific idea urges governments to take an inclusive approach to regional affairs, emphasising dialogue, cooperation, and adherence to international law and norms. It aspires to foster regional stability, prosperity, and peaceful coexistence. In recent years, governments, research tanks, and international institutions have paid greater attention to the Indo-Pacific region as a geopolitical and economic focal point. As a result, several regional initiatives, collaborations, and conferences have been formed to improve cooperation and address the Indo-Pacific region’s issues and potential.

Moreover, the Quad Indo-Pacific recognise an informal strategic forum between the four countries mentioned above. The meeting was established in 2007 to enhance cooperation and coordination on various regional issues, particularly security and defence. The Quad members share a common interest in promoting a free, open, and inclusive Indo-Pacific region. They aim to uphold a rules-based international order, promote maritime security, ensure freedom of navigation, and support economic development and connectivity in the region. The Quad has held regular meetings at various levels, including foreign ministers and senior officials, to discuss regional security challenges, counterterrorism efforts, disaster

response, infrastructure development, and other areas of cooperation.

The forum has also expanded its engagement with other regional countries and organisations. It is important to note that the Quad is not a formal military alliance but a platform for dialogue and cooperation among like-minded countries in the Indo-Pacific region. Additionally, the Quad recognises the importance of addressing non-traditional security challenges like climate change, natural disasters, and pandemics. They aim to enhance cooperation in these areas, including disaster response and resilience building. The Quad also seeks to expand its engagement with other countries and organisations in the Indo-Pacific region, including partnerships with ASEAN (Association of Southeast Asian Nations) and other regional forums to promote a free, open, and inclusive Indo-Pacific. Overall, the Quad sees the crossroad of the Indo-Pacific as an opportunity to advance their shared goals of promoting peace, stability, prosperity, and a rules-based order in the region. They aim to address challenges and seize opportunities through dialogue, cooperation, and collaboration.

The Quad also aims to enhance cooperation and engagement with ASEAN member countries. The Quad recognises ASEAN’s central role in shaping regional architecture and promoting peace, stability, and prosperity in the Indo-Pacific. The Quad seeks to engage with ASEAN member countries in several ways:

a. Dialogue and Consultations:

The Quad holds regular dialogues and consultations with ASEAN member countries to exchange views, discuss regional security challenges, and explore areas of cooperation. These dialogues provide open and constructive discussions on shared goals and interests.

b. Capacity Building and Assistance:

The Quad members provide capacity-building support and assistance to ASEAN countries in maritime security, counterterrorism, disaster response, and cybersecurity, including training programs, information sharing, and joint exercises to enhance the capabilities of ASEAN member countries.

c. Infrastructure Development:

The Quad members aim to collaborate with ASEAN countries on regional infrastructure development projects, promoting transparent, sustainable, high-quality infrastructure investments contributing to economic growth and connectivity.

d. Multilateral Engagement:

The Quad and ASEAN engage in multilateral forums and initiatives to address regional challenges and promote cooperation. This includes participating in ASEAN-led mechanisms such as the ASEAN Regional Forum (ARF) and the East Asia Summit (EAS), where discussions on various security and strategic issues take place.

e. Shared Principles and Values:

The Quad and ASEAN share common principles and values, such as respect for the rule of law, good governance, and promoting democratic norms. They work together to uphold these principles and promote a rules-based order in the Indo-Pacific.

It is important to note that while the Quad engages with ASEAN, it also respects ASEAN's centrality and its principle of non-alignment. The Quad seeks to complement ASEAN's efforts and partner with ASEAN member countries to promote peace, stability, and prosperity in the Indo-Pacific region.

In other ways, a potential return on investment for Malaysia's involvement with the Quad can be multifaceted and may vary depending on the specific areas of collaboration. Here are a few potential benefits:

a. Economic Opportunities:

Malaysia can benefit from increased trade and investment opportunities with the Quad member countries. The Quad aims to promote economic development and connectivity in the Indo-Pacific, which can create avenues for Malaysian businesses to expand their markets and attract foreign investment.

b. Infrastructure Development:

The Quad members actively promote infrastructure development in the region. Malaysia can benefit from infrastructure projects supported by the Quad, enhancing connectivity within the country and the wider area. It can improve transportation networks and increase trade flows and economic growth.

c. Security Cooperation:

The Quad focuses on maritime security and upholding the rules-based order in the Indo-Pacific. As a maritime nation, Malaysia can benefit from

enhanced security cooperation, including information sharing, joint exercises, and capacity building. It can help address security challenges such as piracy, illegal fishing, and maritime territorial disputes.

d. Technology and Innovation:

The Quad members are leaders in technology and innovation. Malaysia can benefit from knowledge sharing, research collaboration, technology transfers in the digital economy, advanced manufacturing, and sustainable development. It can contribute to Malaysia's efforts to enhance its technological capabilities and drive economic diversification.

e. Regional Stability and Cooperation :

The Quad promotes peace, stability, and cooperation in the Indo-Pacific region. Malaysia's involvement with the Quad can contribute to regional stability, creating a conducive environment for economic growth and investment.

It is important to note that the specific returns on investment will depend on the nature and extent of Malaysia's involvement with the Quad and the country's ability to leverage the opportunities presented by the Quad's initiatives. Malaysia needs to assess its priorities and interests to maximise the potential benefits of engagement with the Quad.



While the Quad has the potential for significant benefits, challenges and concerns are also associated with this multilateral grouping. Some of the problems that the Quad faces include:

a. Differing Priorities :

The Quad member countries have different priorities and strategic interests in the Indo-Pacific region. Balancing these diverse interests can be challenging and may lead to disagreements or difficulties formulating a cohesive approach to regional issues.

b. Chinese Perceptions :

China has viewed The Quad's formation with suspicion, as it sees the grouping as a containment strategy aimed at countering its influence in the region. This perception can complicate efforts to engage with China and may lead to tensions and a potential escalation of regional rivalries.

c. Limited Membership :

The Quad currently consists of only four countries - the United States, Japan, Australia, and India. The limited membership may restrict the Quad's ability to effectively address regional challenges and engage with other countries in the Indo-Pacific. It may also limit the Quad's capacity to provide comprehensive solutions to complex issues.

d. ASEAN Centrality :

ASEAN member countries have emphasised the importance of maintaining ASEAN centrality in the regional architecture. There is a need to ensure that the Quad's initiatives are inclusive and supportive of ASEAN-led mechanisms, as well as respectful of ASEAN's non-alignment and consensus-based decision-making principles.

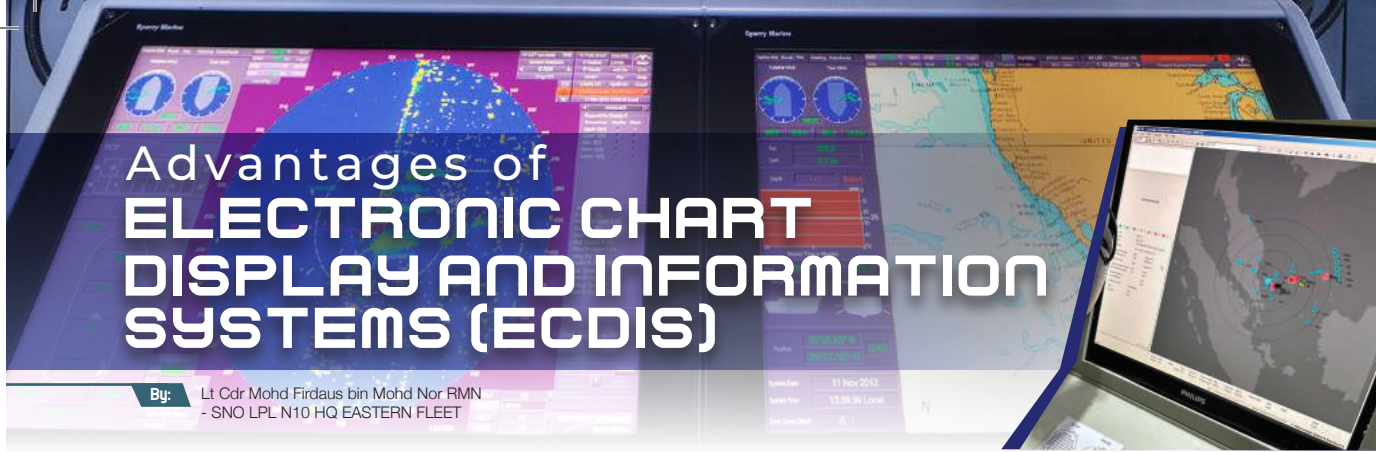
e. Implementation and Coordination :

The Quad's success relies on effective implementation and coordination among its member countries. Ensuring that commitments are translated into concrete actions and consistent communication and coordination can be challenging, particularly given the different political systems and priorities of the Quad member countries.

Addressing these problems requires sustained dialogue, trust-building, and a commitment to inclusive and transparent engagement. The Quad must also consider the perspectives and interests of other countries in the region to ensure a balanced and cooperative approach to addressing the complex challenges in the Indo-Pacific. Therefore, the Quad presents opportunities and challenges for its member countries and the wider Indo-Pacific region.

In conclusion, Quad offers potential benefits such as increased trade and investment opportunities, infrastructure development, security cooperation, technology sharing, and regional stability. However, it also faces challenges such as differing priorities, concerns about containment by China, limited membership, and the need to maintain ASEAN centrality. Sustained dialogue, trust-building, and inclusive engagement with other regional countries are crucial to maximise the Quad's effectiveness and address these challenges. The Quad members must also ensure that their initiatives complement existing regional mechanisms and respect other nations' principles and interests. Ultimately, the Quad's success will depend on its ability to balance pursuing its objectives and fostering cooperation with other countries, including those outside the grouping. By doing so, the Quad can contribute to a stable and prosperous Indo-Pacific region that benefits all stakeholders. 🌐





Advantages of ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS)

By: Lt Cdr Mohd Firdaus bin Mohd Nor RMN
- SNO LPL N10 HQ EASTERN FLEET

In the maritime industry, adopting advanced technologies has revolutionized various aspects of vessel navigation and safety. The Electronic Chart Display and Information System (ECDIS) is a significant innovation. ECDIS has replaced traditional paper charts with digital charts, offering numerous advantages to ship operators, navigators, and the maritime community. This article explores the key benefits of using ECDIS and highlights how it has transformed how ships navigate the seas.

Enhanced Situational Awareness

ECDIS provides mariners with a comprehensive and up-to-date digital representation of nautical charts. By overlaying real-time data such as GPS positioning, radar information, and automatic identification system (AIS) data, ECDIS offers an enhanced level of situational awareness. Navigators can easily visualize their vessel's position, track, and surroundings, allowing for better decision-making, particularly in congested waters or adverse weather conditions.

Improved Accuracy and Precision

Digital charts used in ECDIS are regularly updated and corrected, ensuring the accuracy and precision of navigational information. This eliminates the risk of using outdated or obsolete paper charts, reducing the potential for navigational errors. Mariners can access the latest information on depths, buoy positions, navigational aids, and other essential details, enabling safer and more efficient route planning and execution.

Efficient Passage Planning

With ECDIS, passage planning becomes more efficient and streamlined. The system simplifies the process by allowing mariners to create and edit routes electronically, incorporating all relevant navigational information. It provides options for optimizing routes based on fuel consumption, weather conditions, and traffic patterns. By automating various aspects of passage planning, ECDIS reduces the time and effort required, contributing to operational efficiency and cost savings.

Reduced Chart Storage and Maintenance

Replacing traditional paper charts with digital charts significantly reduces the physical storage requirements. ECDIS eliminates the need for large volumes of paper charts, which are susceptible to wear, damage, and loss. Moreover, digital charts are easily updated, and corrections can be applied electronically, reducing the burden of maintaining and distributing paper charts throughout the fleet. This simplifies logistics, saves space, and promotes environmental sustainability.

The adoption of ECDIS has brought about transformative changes in maritime navigation. The advantages of ECDIS, including enhanced situational awareness, improved accuracy, real-time safety monitoring, efficient passage planning, integration with other bridge systems, and reduced chart storage and maintenance, have revolutionized how ships navigate and operate at sea. As the maritime industry continues to embrace digitalization, ECDIS is vital in enhancing safety, efficiency, and sustainability in maritime operations. 🔄

Real-time Safety

ECDIS offers various safety features that aid in proactive navigation and risk management. It provides alarms and warnings for potential hazards, including shallow waters, collision risks, and navigational restrictions. The system can also generate automatic alerts for weather conditions or route deviation changes. By continuously monitoring safety parameters, ECDIS helps prevent accidents, promotes early intervention, and allows for prompt decision-making to ensure

Integration with Other Bridge Systems

ECDIS can seamlessly integrate with other bridge systems, creating a centralized information hub. It can interface with radar, automatic steering systems, voyage data recorders, and other navigational equipment, enabling a more cohesive and synchronized bridge operation. Such integration enhances the efficiency of data sharing, reduces the risk of errors due to manual data entry, and improves overall bridge management and coordination.

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Advancing Royal Malaysian Navy (RMN) Operations with Variable Depth Sonar: Harnessing the Depths for Enhanced Maritime Security

By: Lt Andri Mohd Izzul Zaim bin Dolar RMN
- KD TUN ABDUL RAZAK

Maintaining maritime security and domination is of utmost importance in the field of naval operations. The creation and application of cutting-edge technologies are essential for achieving this. Variable Depth Sonar (VDS) is one such technology that has fundamentally changed the field of underwater surveillance. This article examines the use of VDS in navy operations, emphasizing its main advantages, operational importance, and contribution to preserving maritime superiority.

1. Understanding Variable Depth Sonar

A specialized sonar technology for naval use called Variable Depth Sonar allows users to drop the sonar array to various depths below the water's surface. VDS offers greater flexibility than conventional fixed sonar systems, allowing the RMN to identify, follow, and fight undersea threats with greater efficiency.

2. Key Benefits of Variable Depth Sonar:

For RMN operations, integrating variable depth sonar has a number of benefits, such as:

- a. **Increased Detection Range:** VDS increases the detection range by placing the sonar array at various depths, improving the Navy's capacity to find submarines, underwater vehicles, and other possible threats.
- b. **Enhanced Target Discrimination:** VDS systems make use of cutting-edge signal processing algorithms and high-resolution photography to give operators the ability to recognize various underwater targets and gather vital intelligence.
- c. **Increased Operational Flexibility:** VDS-equipped vessels can operate in a variety of marine contexts, adjusting to shifting conditions and maximizing performance, thanks to the changeable depth function.
- d. **Reduced Vulnerability:** By keeping the sonar array below the surface, VDS increases overall survivability by lessening the host vessel's exposure to adversary countermeasures.
- e. **Rapid Deployment:** VDS systems are easily deployable from a range of naval platforms, including surface ships, submarines, and helicopters, allowing for speedy response in urgent circumstances.

3. Operational Significance

Numerous naval missions rely heavily on variable depth sonar, which helps maintain maritime security and dominance. Key operational uses include the following:

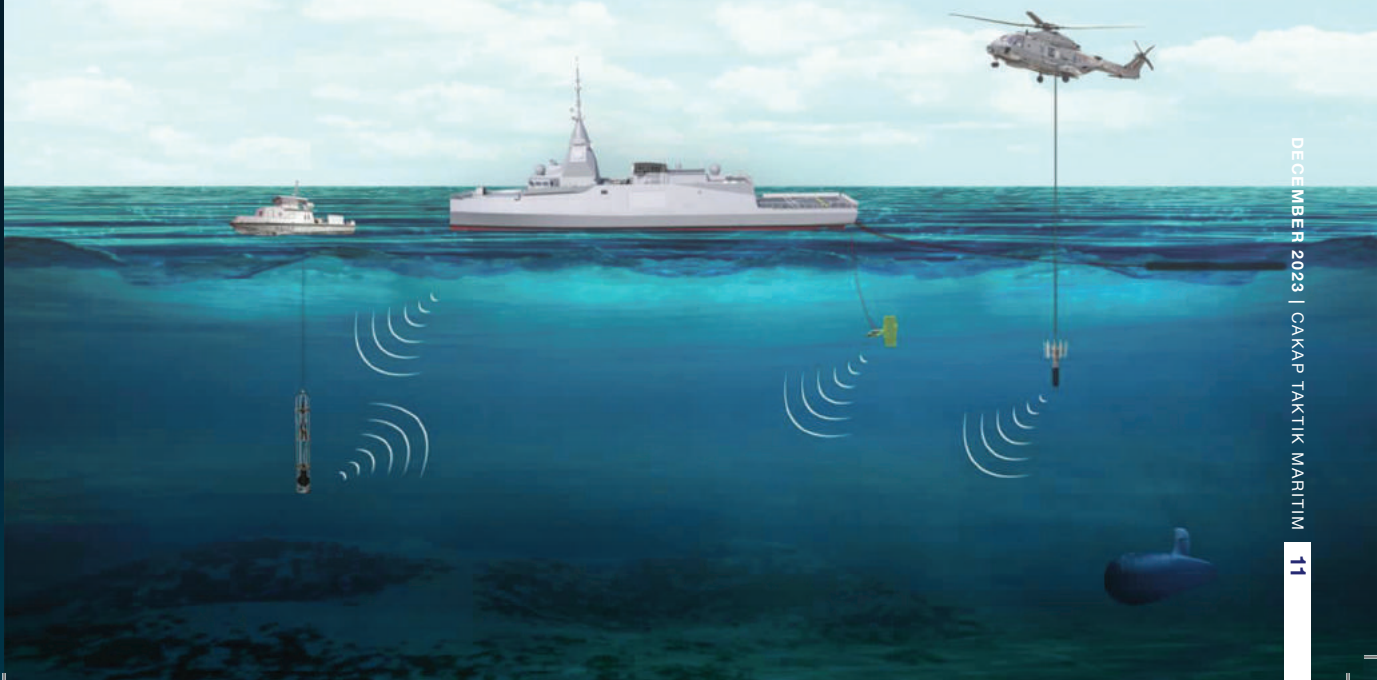
- a. **ASW (Anti-Submarine Warfare):** VDS systems are crucial for seeing and locating adversarial submarines. They enable efficient ASW tactics and maneuvers by providing vital information on submarine positions, movements, and possible threats by operating at various depths.
- b. **Mine Countermeasures:** In mine detection and clearance operations, VDS is essential. It assists in the detection and deactivation of underwater mines by scanning the seafloor at various depths, ensuring safe passage for military vessels and commerce traffic.
- c. **Intelligence, Surveillance, and Reconnaissance (ISR):** By providing real-time intelligence on underwater operations, such as keeping track of adversary naval deployments, conducting underwater surveys, and spotting potential risks to national security, VDS supports clandestine ISR missions.
- d. **Search and Rescue (SAR):** VDS devices aid in SAR operations by detecting stranded boats or people below the water's surface. The ability to modify depth allows for precision scanning of large regions, improving the likelihood that rescue attempts will be successful.

4. Future Developments and Challenges

Ongoing research and development efforts are concentrated on improving Variable Depth Sonar systems as technology continues to advance. Improved signal processing methods, integration with other sensor technologies, and more automation for better operational efficiency may be among the future developments.

The need for constant innovation and investment arises from issues such as signal deterioration brought on by aquatic conditions, lowering false alarm rates, and thwarting advanced enemy countermeasures.

Naval operations have been transformed by Variable Depth Sonar, which has given the RMN unmatched capabilities for underwater observation, detection, and threat reduction. Naval forces can confidently maintain maritime security, respond to new threats, and project strength thanks to its configurable depth feature, expanded detection range, and improved target discrimination. As technology develops, The Navy's dedication to preserving maritime superiority is strengthened by the fact that VDS will continue to be a vital asset for naval operations. 🌀



ASYMMETRIC WARFARE IN MODERN MALAYSIA: ADDRESSING COMPLEX SECURITY CHALLENGES

By:

Lt Siti Azra binti Abd Razak RMN
- KD TUN ABDUL RAZAK



The insurgency has long been a recurring challenge in Malaysia, with the historical communist insurgency from 1948 to 1989 serving as a prominent example. The Malayan Communist Party (MCP) and its armed wing, the Malayan National Liberation Army (MNLA), utilized asymmetric tactics such as guerrilla warfare and hit-and-run attacks against British colonial forces and later Malaysian security forces. The insurgents took advantage of the vast jungle terrain and sought to exploit socio-economic grievances to gain popular support. Malaysia's response to the insurgency has been multi-faceted, involving military operations, socio-economic development programs, and political initiatives. By combining these efforts, Malaysia aims to neutralize insurgent groups and address the root causes of conflict.

Malaysia has confronted the challenge of terrorism from various extremist groups, including Jemaah

Islamiyah (JI), Abu Sayyaf Group (ASG), and the Islamic State (ISIS) and its affiliates. These groups employ asymmetric tactics, such as suicide bombings, assassinations, and coordinated attacks on civilian targets, to spread fear, disrupt societies, and challenge state authority. To mitigate these threats, Malaysia has implemented



robust counterterrorism measures, including intelligence gathering, enhanced border security, and collaborations with regional partners. Additionally, the country has prioritized efforts to counter

radicalization and extremism through deradicalization programs, community engagement, and interfaith dialogues. By addressing the root causes of radicalization and fostering social cohesion, Malaysia aims to prevent the spread of extremist ideologies.

Malaysia's extensive coastline and bustling sea lanes make it susceptible to maritime piracy. Pirate groups, often armed with small boats and light weapons, target commercial ships, fishing vessels, and even tourist boats to hijack cargo, kidnap crew members for ransom, or engage in smuggling activities. These attacks disrupt trade, jeopardize the safety of seafarers, and impact regional maritime security. Malaysia has adopted a comprehensive approach to maritime security, including increased patrols, intelligence sharing, and cooperation with neighbouring countries to combat piracy.

In the modern era, the realm of asymmetric warfare has expanded to include cyber threats. Malaysia, like many other nations, faces challenges from state-sponsored hacking groups, criminal organizations, that disrupt government systems, steal sensitive information, launch propaganda campaigns, or sabotage critical infrastructure. Recognizing the significance of cybersecurity, Malaysia has made substantial investments in building robust cyber defence capabilities. Establishing dedicated cybersecurity agencies, developing comprehensive legislation, and collaborating with international partners have strengthened Malaysia's ability to prevent, detect, and respond to cyber threats.

Addressing asymmetric warfare in Malaysia requires a multi-faceted and comprehensive approach. Malaysia has employed various measures to counter these threats:

1. Military and Security Operations:

Counterinsurgency and counterterrorism operations play a vital role in neutralizing insurgent and terrorist groups. Malaysia's security forces conduct intelligence gathering, targeted military operations, and cooperation with regional partners to dismantle these asymmetric threats.

2. Maritime Security:

To counter maritime piracy, Malaysia's Maritime Enforcement Agency (MMEA) and Royal Malaysian Navy (RMN) collaborate to protect the country's maritime interests. Enhanced patrols, intelligence sharing, and cooperation with regional counterparts contribute to improving maritime security.

3. Counterterrorism and Counter Radicalization:

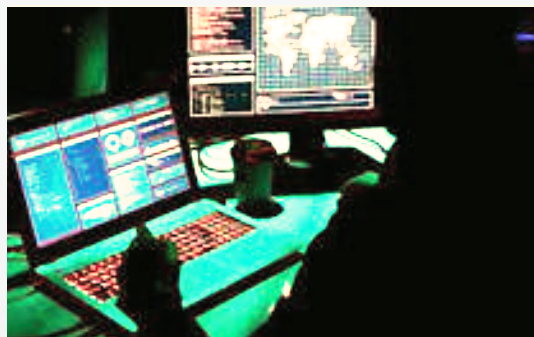
Malaysia has implemented comprehensive programs to counter radicalization and extremism. These initiatives focus on deradicalization efforts, community engagement, and interfaith dialogue. By addressing the root causes of radicalization and promoting inclusive narratives, Malaysia aims to prevent the spread of extremist ideologies.

4. Socio-Economic Development:

Recognizing the link between socio-economic disparities and asymmetric threats, Malaysia has prioritized socio-economic development in marginalized areas. Efforts to reduce poverty, improve education, and provide economic opportunities aim to alleviate grievances and reduce the appeal of extremist ideologies and recruitment.

5. Cybersecurity:

To combat cyber threats, Malaysia has made significant investments in cybersecurity measures. The establishment of dedicated cybersecurity agencies, the development of comprehensive legislation, and the enhancement of technical capabilities enable the country to prevent and respond effectively to cyberattacks.



Asymmetric warfare poses complex security challenges for modern Malaysia, encompassing insurgency, terrorism, piracy, and cyber threats. The country has responded with a comprehensive approach that combines military operations, socio-economic development, intelligence gathering, and regional cooperation. By addressing the root causes of conflicts, preventing radicalization, strengthening maritime security, and enhancing cybersecurity measures, Malaysia is continuously adapting to effectively counter asymmetric threats. This multi-faceted response demonstrates Malaysia's commitment to safeguarding its national security and maintaining stability in the face of evolving asymmetric warfare in the modern world. 🌐

Resurgence of Conventional Warfare : Analyzing Implications for Maritime Security in Malaysia's Royal Navy

By: Lt Kanthan a/I Jeyaprakash RMN
- KD LEKIR

In recent years, there has been a notable transformation in the dynamics of global security, characterized by the resurgence of conventional warfare. Malaysia, a nation situated in Southeast Asia renowned for its rich cultural diversity and notable economic advancements, has not remained unaffected by this prevailing phenomenon. Conventional warfare encompasses armed conflicts between nations or organized military entities that adhere to established rules and tactics. The practice involves the utilization of traditional military equipment and engagement in combat within prearranged battlegrounds. This article aims to analyze the underlying factors that contribute to the reemergence of certain phenomena. Specifically, it will explore the implications of this re-emergence for the Royal Malaysian Navy's (RMN) maritime security efforts. Additionally, the article will discuss potential measures that can be implemented to effectively address these evolving threats.

As we study the re-emergence, it is imperative to take into account the historical backdrop. Since achieving independence in 1957, Malaysia has experienced a notable degree of tranquility and stability. Nevertheless, the resurgence of conventional warfare as a potential threat in the region can be attributed to geopolitical shifts, territorial disputes, and escalating militarization. The Royal Malaysian Navy (RMN) has played a crucial role in effectively managing the resurgence of conventional warfare, with the primary objective of safeguarding Malaysia's maritime interests and upholding regional security.

The re-emergence can be attributed to the significant influence of shifting geopolitical dynamics. The presence of tensions and rivalries in the South China Sea, characterized by the overlapping territorial claims of multiple countries, serves as a contributing factor to the current situation. The involvement of major global powers in the region contributes to the heightened potential for military confrontations. In order to effectively respond to the evolving dynamics, RMN should undertake measures to bolster its capabilities and strategies with the aim of safeguarding Malaysia's maritime interests. In order to navigate the evolving geopolitical landscape, it is imperative for RMN to actively participate in diplomatic endeavors and engage in regional forums with the aim of pursuing peaceful resolutions to territorial conflicts. Enhancing collaboration with adjacent naval forces and upholding transparent channels of communication are imperative to mitigating conflicts and fostering stability.

Modernizing naval capabilities is a crucial driver behind the reemergence of conventional warfare in the RMN. The Malaysian government has acknowledged the importance of safeguarding its maritime interests and has made significant investments in the modernization of its naval fleet and the enhancement of its operational capabilities. The RMN can enhance its capacity to address emerging maritime threats by procuring sophisticated naval assets, including submarines, frigates, and patrol vessels, and by enhancing training and readiness measures.

KD LEKIR Firing Exocet
MM40 Missile



Firing Exercise during Operational Sea Training
Exercise (OSTEX)



RMN Fast Combat Boat (FCB) during LIMA 23
Maritime Segment Demonstration



PASKAL Demonstration during LIMA 23 Maritime
Segment



| Squadron 503 involvement during LIMA 23 Maritime

Furthermore, it is of utmost importance for the RMN to uphold maritime domain awareness in order to effectively and comprehensively monitor and comprehend the various activities and potential threats occurring within Malaysia's

maritime domain. To enhance its surveillance capabilities and identify potential risks, RMN should consider utilizing advanced technologies, including surveillance systems, maritime patrol aircraft, and unmanned aerial vehicles. Enhancing collaboration with regional counterparts and engaging in collective naval drills and initiatives for exchanging information are imperative as well. The augmentation of maritime domain awareness facilitates the RMN in promptly addressing formidable threats and safeguarding Malaysia's maritime interests.

The resurgence of traditional warfare in the realm of maritime naval operations highlights the significance of enhanced regional collaboration in effectively tackling mutual maritime security concerns. It is imperative for Malaysia to proactively participate in regional frameworks such as the ASEAN Defense Ministers' Meeting (ADMM) and the ASEAN Regional Forum (ARF) in order to facilitate dialogue, foster confidence-building measures, and enhance multilateral cooperation.

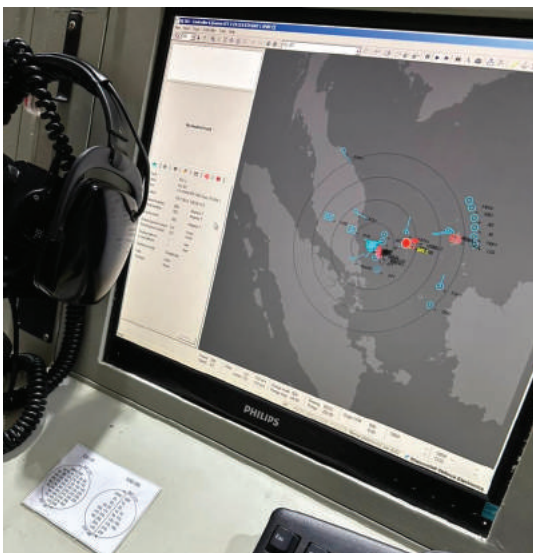
ACCREDITATION VISIT

By establishing collaborative alliances with adjacent naval forces, the RMN can effectively improve interoperability, engage in coordinated patrols, and exchange valuable insights and strategies. Regional cooperation plays a pivotal role in facilitating the sharing of information, the exchange of intelligence, and the implementation of coordinated responses to maritime incidents or crises.

While conventional warfare remains significant, it is imperative for the RMN to also confront the changing landscape of threats, which encompasses non-state actors and asymmetric warfare. Transnational criminal networks, piracy, and maritime terrorism are just a few of the threats that maritime security must deal with. The effective countering of threats necessitates the development of capabilities in asymmetric warfare, including maritime special operations forces and coastal surveillance systems. The RMN capacity to tackle non-conventional security challenges in the maritime domain

can be strengthened through cooperation with other branches of the Malaysian Armed Forces as well as regional and international partners.

The resurgence of traditional warfare within the Royal Malaysian Navy requires the implementation of adaptable strategies in order to address the changing landscape of maritime security challenges. By acknowledging the evolving geopolitical dynamics, enhancing naval capabilities through modernization, establishing comprehensive maritime domain awareness, fostering regional collaboration, and cultivating asymmetric warfare capabilities, the Royal Malaysian Navy can proficiently tackle emerging challenges and effectively fulfill its responsibility of safeguarding Malaysia's maritime interests. The implementation of a proactive and comprehensive strategy will play a significant role in promoting regional stability and safeguarding Malaysia's status as a maritime nation. 🌀





Amphibious Ship equipped with Landing Craft will ease in HADR operation especially in reaching area without proper berthing equipment (UK Marine forces are conducting HADR Operations at British Overseas Territory effected by hurricane in 2021).

Future Of RMN Amphibious Capabilities

By:

Lt Muhammad Noorizat bin Mohamad Zamri RMN
- KD LEKIR

The Royal Malaysian Navy (RMN) has long recognized the importance of amphibious capabilities for its national defence strategy. As maritime security challenges evolve, it becomes imperative for the RMN to adapt its amphibious capabilities to effectively respond to emerging threats and maintain a credible deterrent posture. This essay aims to provide insights into the future of the RMN's amphibious capabilities and the various factors that will shape its development.

The RMN's amphibious operations have traditionally focused on disaster relief, humanitarian assistance, and maritime border control. However, recent geopolitical developments have necessitated a broader scope for amphibious capabilities, including power projection, littoral combat, and territorial defence.

The future of the RMN's amphibious capabilities hinges on the acquisition and modernization of naval vessels. Investments in modern shipbuilding techniques, including advanced hull designs, stealth technology, and improved propulsion systems, will enhance the RMN's ability to project power and conduct amphibious operations effectively.

The integration of unmanned systems and robotics into the RMN's amphibious capabilities will revolutionize naval operations. Unmanned aerial vehicles (UAVs), unmanned surface vessels (USVs), and autonomous underwater vehicles (AUVs) will significantly augment surveillance, reconnaissance, and mine-clearing operations, reducing risks to human personnel.

Enhanced Interoperability with Allied Navies

To strengthen its amphibious capabilities, the RMN will foster closer interoperability with allied navies through joint exercises, information sharing, and standardization of operational procedures. Collaborative efforts will enable the RMN to leverage the expertise and resources of partner nations, enhancing its expeditionary capabilities.

Joint Exercises and Training Programs

The RMN will place increased emphasis on joint exercises and training programs involving all branches of the armed forces. These exercises will focus on enhancing coordination, command and control, and seamless integration between air, land, and sea assets in amphibious operations. Realistic scenario-based training will prepare RMN personnel for complex and dynamic amphibious operations.

Adaptation to Hybrid Threats

The future of amphibious capabilities requires the RMN to adapt to evolving hybrid threats, including asymmetrical warfare, cyber threats, and non-state actors. The integration of intelligence, surveillance, and reconnaissance (ISR) capabilities, coupled with robust information warfare strategies, will enable the RMN to counter emerging threats effectively.

Specialized Amphibious Training

RMN need to invest in specialized training programs for its amphibious forces, focusing on amphibious assault tactics, beach reconnaissance, amphibious landings, and amphibious support operations. This training will enhance and prepare RMN's ability to conduct amphibious operations in diverse environments and under challenging conditions.

Cross-Training with International Partners

Collaboration with international partners will be crucial in shaping the future of RMN's amphibious capabilities. Cross-training opportunities with allied navies, particularly those with well-established amphibious forces, will provide valuable insights and foster a culture of interoperability.

ASEAN Cooperation and Partnerships

RMN is actively engage in regional cooperative initiatives within the Association of Southeast Asian Nations (ASEAN) framework. Strengthening partnerships with neighbouring countries and fostering a collective approach to maritime security will enhance the RMN's amphibious capabilities through information sharing, joint exercises, and coordinated responses to regional challenges.

Regional Security Cooperation

Opportunities for regional security cooperation present themselves as a potential force multiplier for the RMN's amphibious capabilities. Strengthening relationships with international partners, participating in multinational exercises, and engaging in capacity-building initiatives will enhance the RMN's ability to respond effectively to regional security challenges.

South China Sea Dynamics

The South China Sea remains a significant area of focus for the RMN's amphibious capabilities especially in Spratly Islands. As regional tensions persist, the RMN will continue to prioritize the development of a credible deterrent posture, bolstering its ability to protect national interests, ensure freedom of navigation, and safeguard maritime security in the region.

Emphasis on Expeditionary Mindset

The development of an expeditionary mindset among RMN personnel will be paramount in the future. This includes fostering adaptability, resilience, and the ability to operate in austere environments. Enhanced cultural understanding and language proficiency will facilitate effective collaboration with regional partners during joint amphibious operations.

The future of the Royal Malaysian Navy's amphibious capabilities holds significant potential. The RMN can enhance its ability to project power, respond to emerging threats, and safeguard national interests through technological advancements, operational strategies, training programs, and regional cooperation. By continuously adapting to evolving security dynamics and investing in developing a robust amphibious force, the RMN can position itself as a formidable maritime power in the region. 🚢

The Development Of **AUTONOMOUS** UNDERWATER VEHICLE

By: Lt Muhamad Fahmi bin Abdullah RMN
- KD LEKIU

Autonomous Underwater Vehicles (AUVs) are defined as underwater vehicles that can operate without a human operator. Sizes can range from just a few kilograms up to thousands of kilograms. The first AUV was created in 1957 with the purpose of performing research in the Arctic Waters for the Applied Ph Laboratory at the University of Washington. By the early 2000s, 10 different AUV had been developed such as screw driven AUVs, underwater gliders, and Bionic AUVs. The earliest models used screw propeller thrusters while more recent models utilized automatic buoyancy control. The earliest model, Special Purpose Underwater Research Vehicle (SPURV), weighed 484 kg, went as deep as 3650 meters, and could travel for up to 5.5 hours. One of the most recent models, Deep glider, weight 62 kg, can go as deep as 6000 meters, and can travel up to 8500 km.

Generally, Unmanned Underwater Vehicle are divided into two categories which is Remotely Operated Underwater Vehicles (ROVs) and Autonomous Underwater Vehicles (AUVs). ROVs are linked and controlled by a person or crew on either land or neighbouring craft via cables and a related management system, as well as built-in sensors for video. AUVs, on the other hand, are untethered in every sense. They operate without an umbilical cord or a human and are pre-programmed with waypoints and a designated task. AUV use advanced navigation and control systems against those being remotely operated by humans. It is designed to explore and exploit a deep oceanic environment. As maritime operation expands into deep waters and remote locations, there arises a need for more effective technology which provides a better gathering of information. The new technology is advantageous because it can simply be given instructions to perform a certain task and come back to its original location. It comes with cutting-edge technology that could be deployed for maritime security such as piracy and terrorism and surveillance.

Development Of AUV By Navies

Autonomy will bring significant changes to undersea warfare. From longer range and endurance to attack and surveillance operations. Enemy AUV's will be able to operate amid minefields, launch undersea attacks or provide a long-range strike capability to land targets. Such missions will require new and advanced capabilities, from seamless, real-time communications among AUVs and motherships, to an advanced undersea GPS-like capability, currently being developed by the U.S. Defence Advanced Research Projects Agency (DARPA) and BAE Systems. Developers have built highly autonomous systems that can navigate, manoeuvre, and carry out surprisingly complex tasks. Operating above or near the surface simplifies the power and control, but compromises stealth.

Bluefin-21 UAV

General Dynamics acquired the popular Bluefin-21 AUV when the company acquired Bluefin Robotics in 2016. The General Dynamics Knifefish is a version of the Bluefin-21. Founded as an academic discipline at Dartmouth in 1956 but with roots dating back to World War II artificial intelligence has gone through a series of highs and lows in terms of expectations, accomplishments, and failures. It was not until the 21st century, with its rapid evolutions in computing power, speed and miniaturization, that AI experienced a new renaissance that has made it a critical part of new military and civilian systems. While dependable and deployable AI remains an elusive goal, the prospect of imminent breakthroughs and subsequent demands for its employment is a vast array of military systems and missions also has led to increased concerns about ethics, especially for autonomous military systems with weapons capability.

Artificial Intelligence (AI) In Underwater Warfare

AI technology is enabling unmanned submersibles to operate for days and weeks at a time without intervention for tasks like ocean floor surveillance and mine hunting. Today, DARPA is pursuing more than 20 programs actively exploring ways to advance the state of the art in AI, pushing beyond second wave machine learning towards the third wave of contextual reasoning capabilities, notes Peter Highnam, DARPA Deputy Director. In addition, DARPA are actively working on over 50 programs that are leveraging AI in some capacity. One major effort is DARPA's Lifelong Learning Machines (L2M) program.

The L2M program's prime objective is to develop systems that can learn continuously during execution and become increasingly expert while performing tasks. They remain subject to safety limits and capable of applying previous skills and knowledge to new situations, without forgetting previous learning. L2M could take undersea AI to new levels for long-distance, long-endurance missions in complex and congested areas of operation. By having the onboard ability to adapt to new circumstances, an AI AUV could retain a high level of functionality despite an enemy's changes to his own systems or capabilities, sub-surface and surface. As with any computer-based system, artificially intelligent AUVs would be subject to enemy efforts to defeat them, including attempts to take control of the AI and possibly turn the system against its owners.

Defective AUV

Operating in extreme environment, AUV will surely face possibilities of a defective equipment. For example, if an AUV being sent to Arctic Ocean with extremely low temperature environment, the risk of the AUV malfunctions is increased due to its internal system operations. There are also a reported case of fishing activities having an unmanned underwater sea vehicle tangled in nets which is allegedly of Chinese origin. This case happened in 2019 at Riau Island which situated at South China Sea waters. This demonstrates some of the complications as more countries commence AUV operations.

Incidents such as mentioned above highlight the risk of AUV's being deployed in a military context. With increased activity and deployment of AUV's, including the possibility of armed AUV's, further safety considerations will need to be observed. Additionally, Navies around the world will need to develop adequate countermeasures against adversarial AUV operations.

Recovery Procedure:

An AUV suffering a malfunction should abort any missions that it was programmed to conduct and return to safe waters immediately. Since these AI-driven AUV's could process large amounts of data, the system should have the ability or with the help of an additional processor, to detect and recognise any anomaly.

Weapon Safe Device:

If AUV's can carry weapons that could result in mass destruction, further safety measures should be applied to combat any unintended detonations.

Countermeasures Against AUV

Sonobuoys

Mainly AUVs are small and extremely quiet. To counter AUVs deployment the sonar buoys at the harbour will provide better under water surveillance. Confined spaces in ports and harbours are notoriously difficult, noisy acoustic environments. The vessels themselves are sources of noise as they come and go. In addition, shallow waters create a complex thermal structure affecting the sound velocity profile that in turn limits the performance of your acoustic systems. Only by making the right choices, it is possible to detect AUVs using sonar. Once a target is detected, it must also be classified and distinguished from marine fauna, otherwise potential foes could be missed, or crews sent to investigate harmless objects in dangerous environments.

Deploying AUV against AUV

The employment of AUV's is likely the best way to counter adversarial AUV operations. Navies must consider long term deployment of AUV's with detection capabilities to combat any underwater threats such as enemy AUVs. Power remains a limiting factor for the deployment of AUVs. For that, the employment of underwater power supplies which can provide continuous power to patrolling AUVs will be required. Pre-positioning AUVs in any choke points or approaches are likely to provide early warning for countermeasures.

Navigation Buoys

Navigation buoys that equipped with passive sonobuoy are able to provide early detections of any incoming anomaly underwater target. Even a tsunami buoy can also be equipped with passive sonobuoy equipment since most of the buoys will be positioned away from coastal areas. Instead of only transmitting alarms for tsunamis, it can also provide detection of AUV or submarine.

Fixing Acoustic Jammers

AUVs and submarines use passive sonar to detect objects whilst at sea. The employment of acoustic noise jammers could limit the ability for AUVs and submarines to detect and localise units. These jammers could also be added to tsunami buoys. The utilisation and employment of jammers could provide an excellent defence against enemy AUVs.

AUV Around The World

ORCA (USA) - Orca Extra Large Unmanned Underwater Vehicles (XLUVs) developed by USA will be able to undertake missions from scouting to sinking ships at very long ranges. Drone ships like the Orca will revolutionize war at sea, providing inexpensive, semi-disposable weapon systems that can fill the gaps in the front line or simply go where it's too dangerous for manned ships to go. The primary purpose ORCA is lay mines and counter mines. Overall length of 26m, including the length of payload carriage. Launch and recovery without the requirement of support ships.

REMUS 300 (USA) - USA has also ordered two Remote Environmental Monitoring Units 300 AUVs (REMUS 300), which are built for military and commercial applications, such as mine countermeasures and search and recovery from the Huntington Ingalls Industries.

HSU001 (China) - China also developed AUV called HSU-001 which may be deployed for intelligence gathering purposes. Hsu-001 LDUUV is large enough to carry smaller AUVs, sensors and naval mines, and that it appears to be designed primarily for Intelligence, Surveillance and Reconnaissance (ISR) purposes. Its twin propellers, meanwhile, suggest that it is optimized for near surface low speed cruising instead of deep diving.

Poseidon (Russia) - Poseidon is developed by Russia and it's armed with megaton class nuclear warheads. The Poseidon appears to be a torpedo shaped which can travel at a maximum speed of 100 knts. Typical depth of the drone may be about 50 to 100 meters for increased stealth features in low-speed stealth mode. Low depth in stealth mode is preferred because sound waves move to ocean floor and reduce radius of detection. Submarines use the same strategy in silent running mode. The Poseidon was designed to be carried and launched by submarines. Its main role is to engage strategic enemy targets, such as carrier battle groups and naval bases. The Poseidon will approach its targets and will detonate its nuclear warhead. This AUV can carry a nuclear warhead with a blast yield of 2 MT.

SARMA (Russia) - SARMA unmanned undersea vehicle developed by the Lazurit Design Bureau will be able to dive to a depth of 1 km and accomplish assigned missions for three months independently. The submersible will be capable of covering a distance of more than 8,000 km. It will also be equipped with Air Independent Propulsion (AIP) unit using Hydrogen and Oxygen that allows the operation underwater for a long without surfacing.

Environmental Effect Of Operating AUV

With an increase of the number of AUVs deployed, the possibility of negative environmental impacts increases. With equipment operating in extreme conditions, such as deep water or extremely low temperature waters, concerns arise on the impact of the maritime environment.

Increase in Acoustic Noise

With an increase of AUVs throughout the maritime environment, the disruption to marine life will increase. While AUVs will primarily use passive sonar to detect maritime units, if AUV technology begins to rely on active transmissions, the effect on marine habitats must be considered.

Effects on the Sea Floor

As more navies seek to operate AUVs, the risk of malfunctions and therefore pollution increases. If an AUV is operating at great depths in operational areas and suffers a malfunction, it is likely that it will self-destruct or sink to avoid capture by the enemy. Should the AUV be carrying a weapon, the effects on the sea floor increase. Any explosion may cause changes to the underwater landscape and potentially affect the marine population. If an AUV is carrying a chemical weapon, this will cause further pollution within the ocean. 🚫





Is the future of ASW driven by robots?

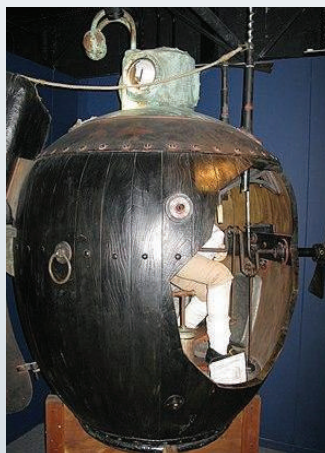
By: Lt Cdr James Tew RAN
- PUSTAKMAR

Small Remotely Operated Vehicles (ROV) have been used for many years in commercial settings to access depths that divers cannot. These ROVs, which are used for oil and gas platform inspections, have rapidly developed from their original designs (tethered by wires) resulting in the development of Autonomous Underwater Vehicles (AUV). The early ROV operators greatly profited from these developments as it has increased operational flexibility however limitations remain with long-term power supply. It was only a matter of time before a military use case for autonomous underwater vehicles would present military strategists with both an opportunity and dilemma. Given an already widely accepted use case for Unmanned Aerial Vehicles (UAVs), the future of underwater warfare seems certain to follow a similar path.

Since 2020, Boeing has been working on an Autonomous Extra Large Unmanned Underwater Vehicle (XLUUV) named the "Orca". Measuring 15.5 metres long, the Orca will be equipped to counter mines, conduct anti-surface warfare (ASuW), engage in anti-submarine warfare (ASW) and electronic warfare capabilities.

Online reporting has noted that the United States Navy (USN) has

engaged with Boeing for their Orca signing a USD 11.6 million (RM 53.9 million) maintenance contract in 2022. However, the USN has operated large AUVs in the past. In 2022, the Department of Defense published a report stating that it had conducted a successful test using the Snakehead Large Displacement Unmanned Underwater Vehicle (LDUUV). In this test, the Snakehead completed a long-distance entry, sonar survey and a successful egress returning to the test facility.



The first known instance of submarine warfare dates back to 1776 when the American submarine "Turtle" launched an unsuccessful attack against a British Warship.

Ever since the American Civil War, submarine warfare has been as well-established domain for Navies worldwide.

Through both World Wars, submarine warfare advanced and played a significant role in numerous engagements on both sides. The development of the nuclear submarine during the post-war era brought about a significant shift in strategic thinking towards submarine warfare. Nation-states continued to have possibilities to modernize their fleets as a result of other technological advancements like air-independent propulsion. Autonomous underwater vehicles are becoming a feasible force multiplier without the requirement to also deploy crewed submarines due to the major technology breakthroughs in communications.

When we consider the employment of AUVs it provides navies an opportunity to cheaply multiple their force in comparison to conventionally crew submarines. While crewed submarines will always have a place in the theatre of operations, AUVs and uncrewed submarines provide additional capacity at a significantly lower cost. However, the additional costs

associated with retraining crews is something that must be considered by Nations seeking to employ this capability.

Navies throughout the world are reporting significant challenges with recruitment and retention of qualified personnel. The employment of AUVs and thereby reducing the number of at sea personnel may

present Navies with a partial solution to this challenge. Further, with the pace of technological development in the field of AI, the deployment of AUVs by Navies present additional benefits to Senior Leaders and Higher Headquarters not seen since the advent of UAVs. To further understand these advantages, let's look at how this capability may be employed in the future.

01| Round-the-clock capability:

An XLUUV is an example of a deployed capability that offers operational efficiency unmatched by conventional units. The capacity to sustain the crew (with supplies) limits the deployment length of a conventional submarine. Additionally, because of the Orca's modular construction, military planners can modify the capability based on the mission. Additionally, throughout the life of the AUV or UUV, Boeing asserts that navies can upgrade the capability based on the changing security environment. Due to current limitations on submarine deployment timeframes, the ability to deploy an asset without having to replenish the crew's supplies provides Navies and Nations the chance to maximise their situational awareness and resource utilisation.

02| Force multiplier:

The employment of UUV's provide Navies with access to a highly effective, multi-unit force that will amplify their capability. The ability to deliver payloads, conduct ISR and remain undetected due to its smaller form factor provides military planners additional capability not previously possessed. Some UUVs may be deployed from a "mothership" which could be capable of rapidly deploying multiple assets meaning that one traditional unit can achieve many different missions at the same time. Naval Technology reports that Boeing's Orca project can travel more than 6,500 miles on a month's worth of fuel. Utilising capabilities with extended ranges, deployed from traditional units, results in a significant boost to force projection range allowing Nations to maximise their forces in the ever-growing contest environment.

03| Operating limitations:

Given the dimensions and layout of the XLUUVs and LUVs being detailed by defense companies, these vessels offer military strategists a substantially more compact but still functional alternative to crewed submarines. GPS and internal navigation devices aboard Boeing's Orca XLUUV enable autonomous surface and underwater operations. Why is this important? Smaller ships, like the Orca, have entirely different operating restrictions because of the terrain of the ocean. An opportunity to drop payloads and conduct operations in locations previously inaccessible by current submarines due to their size is presented by a smaller vessel's ability to operate in shallower waters.



To sum up, UUVs will give military strategists, Senior Leaders, and Higher Headquarters a significant capability to use in undersea warfare in the future. A strategic asset never seen in the subsurface environment provides a capability to deliver payloads in conventionally difficult-to-reach regions. The additional feature of being able to multiply the force for a lot less money than conventional submarines also enable Navies to quickly increase their forces in a strategic environment that is always changing. The creation and use of these UUVs will undoubtedly impact ASW in the future, which is thrilling to watch. 🌀



PELAYARAN PERTAMA LASKAR

By: Lt Dya Ahmad Farhan bin Ismail TLDM
- PSSTLDM

Program Pelayaran Pelatih (3P) merupakan satu program pelayaran yang melibatkan Laskar Dalam Latihan (LDL) yang dilaksanakan pada setiap tahun bagi memberi pendedahan kepada mereka terhadap rutin dan budaya kerja di kapal. Program ini merupakan pelayaran pertama mereka selepas selesai menjalani latihan di KDSI dan sebelum menjalani Latihan Sambil Kerja (LSK) Fasa Pertama. Latihan ini dilaksanakan bersama dua buah Kapal Latihan TLDM iaitu KD GAGAH SAMUDERA dan KD TEGUH SAMUDERA sebagai platform utama.



Pelaksanaan program ini merupakan salah satu inisiatif pusat latihan bagi mempelbagaikan corak latihan pelatih-pelatih baru dan tidak hanya tertumpu pembelajaran teori di kelas sahaja. Program ini menggunakan pendekatan Visual, Auditory dan Kinesthetic (VAK) yang mampu memaksimumkan keupayaan penyerapan teori dan praktikal. Latihan ini secara tidak langsung membuka ruang kepada pelatih untuk melaksanakan ilmu-ilmu yang telah dipelajari secara hands on. Berdasarkan kajian maklumbalas

yang telah dilaksanakan, pelatih yang mengikuti 3P ini sangat berpuas hati dan berharap program ini akan diteruskan kelak bagi pengambilan LDL seterusnya. Ini kerana melalui program ini mereka telah merasai sendiri pelayaran bersama kapal TLDM dan lebih memahami

tanggungjawab sebagai seorang tentera. Kehadiran mereka di kapal juga dapat memupuk semangat cintakan negara dan menghayati setiap pengorbanan The Navy People yang bertugas di lautan demi menjaga kepentingan dan keselamatan perairan negara. Selain itu, latihan evolusi, MKMA dan tatacara Sistem Senggaraan Kapal (SSK) yang dilaksanakan semasa kapal berlayar juga membantu pelatih untuk memahami dengan lebih jelas, ini kerana peralatan yang digunakan di kapal juga lengkap dan bersesuaian dengan apa yang telah mereka pelajari di KD PELANDOK.

Perkongsian pengalaman dan nasihat daripada warga kapal juga membuka minda pelatih serta memupuk keyakinan mereka dalam persediaan menceburi alam pekerjaan sebenar kelak. Interaksi antara warga kapal dan pelati juga secara tidak langsung telah mengajar erti hormat menghormati dan sikap kepimpinan dalam diri masing-masing.

Pelaksanaan program ini mampu memberi impak yang tinggi terhadap prestasi pelatih serta dapat menghasilkan tenaga kerja yang berkualiti untuk mengendalikan aset-aset TLDM di masa akan datang. Kerjasama daripada pihak kapal dan pusat latihan secara tidak langsung membantu pelatih untuk mencapai

objektif latihan yang digariskan. Pelatih-pelatih ini diibaratkan kelapa muda tak berminyak dan dengan inisiatif mengadakan latihan seperti ini ia berupaya melahirkan modal insan yang kompeten dan sesuai menyokong Visi dan Misi TLDM. 🚢



Program ini dikendalikan oleh KD PELANDOK dan dibawah seliaan Markas Pemerintahan Pendidikan dan Latihan TLDM. Kebiasaannya, pelatih akan dibawa belayar ke sekitar Pulau Pangkor atau perairan Selat Melaka selama 3 hingga 4 hari, namun ia juga bergantung kepada keperluan dan penugasan semasa kapal yang terlibat. Penglibatan kedua buah Kapal Latihan TLDM di dalam program ini dapat diaplikasikan sepenuhnya sebagai platform latihan di laut bagi pelatih yang baru menyertai TLDM. Ini memberi peluang kepada pelatih untuk merasai sendiri situasi di lautan dan menimba pengalaman sebelum ditugaskan di kapal-kapal dan unit-unit kelak. Pelayaran pertama mereka ini bakal menjadi salah satu pengalaman yang berharga dan mampu menaikkan moral serta semangat mereka untuk berkhidmat di dalam TLDM kelak. Pelatih akan menjalani rutin seharian di kapal dan di pelabuhan bagi memberi gambaran dengan lebih jelas akan skop kerja.

Pusat Taktik Maritim / aktif Maritim



PUSTAKMAR



Sandakan Readiness Exercise (SREX)

By: Lt Ir. Nur Shamimi binti Shahirol RMN - MAWILLA 2
Foto: Lt Cdr Muhammad Bukhari bin Ahmad Yusoff RMN - MAWILLA 2

Sandakan: The aforementioned exercise commenced on November 4th, 2019, with the primary objective of allowing the Headquarters to evaluate the preparedness and proficiency of the fleet's personnel. This evaluation is conducted through a series of exercises.

The objective of implementing SREX is to improve the competence of the Fleet while ensuring that all training is carried out in accordance with the Fleet Operational Standard (FOS). This exercise is planned to be conducted every Thursday and is coordinated by N5 Division, Naval Area 2 Headquarters. The Royal Malaysian Navy's main task during peacetime is to train for war. This task clearly emphasizes that the RMN fleet is in the highest state of readiness through continuous training. The purpose of peacetime training is to ensure that each ship's crew is capable of carrying out the assigned duties and responsibilities.

Continuous evaluation of competence can be achieved through a deliberate focus on training concentration. Continuous assessment methods prioritise the evaluation of individual, sub-team, and full-team skills in relation to their respective core functions and roles. The training programme encompasses a diverse array of activities, including navigation, seamanship, and communication protocols.

In addition, SREX allows naval personnel to apply theoretical knowledge acquired through classroom instruction to real-world situations. By conducting training at sea, RMN naval ships are able to simulate a variety of operational conditions, including inclement weather, complex navigation challenges, and tactical engagements, through a series of varying evolutions outlined in the RMN Fleet Exercise Manual. This allows the crew to hone their decision-making skills and gain a deeper comprehension of the ship's capabilities and limitations. In addition, SREX allows the fleet to validate and refine their standard operating procedures, ensuring seamless coordination and cooperation between departments and crews. It fosters teamwork, effective communication, and the growth of leadership skills among naval personnel, all of which are essential for operational success in demanding and dynamic maritime environments.



The concept of operations in RMN refers to the Navy's overarching plan and strategy that guide its activities and deployments. It describes how the RMN uses its naval assets, such as ships, submarines, aircraft, and personnel, to achieve its operational goals. SREX contributes to HQ COMNAV 2's basic regular naval exercise before embarking on a more complex and enhanced multilateral exercise. In addition, these sea training exercises provide an opportunity for future collaboration between RMN ships and other units, both domestically and internationally, through joint exercises and interoperability training. This improves coordination and cooperation between naval forces, strengthens regional security capabilities, and contributes to regional stability. In conclusion, SREX and other maritime training exercises play a crucial role in enhancing the RMN's readiness and proficiency. These exercises provide naval personnel with invaluable opportunities to improve their skills, enhance operational effectiveness, and foster interoperability in joint operations. Through rigorous and realistic scenarios, the Navy is able to simulate a variety of maritime challenges and develop countermeasures. Through these exercises, the RMN demonstrates its dedication to maintaining regional security, defending national interests, and contributing to international peacekeeping initiatives. 🇲🇾

Panglima Tentera Laut Raikan Hari Raya Aidilfitri Bersama Warga *Navy People* Sandakan

By: Lt Dya Nurul Aina bin Alipoldo TLDM - PSSTLDM
Foto: Lk Tir Tc. Ahmad Shukri bin Samat TLDM - KA TUN AZIZAN

‘**B**agai Aur dengan Tebing’ itulah peribahasa yang sesuai digunakan untuk menggambarkan betapa eratnya hubungan antara Yang Berbahagia Panglima Tentera Laut, Laksamana Datuk Abdul Rahman bin Ayob dengan warga The Navy People Sandakan ketika menghadiri lawatan kerja selama 2 hari ke Pangkalan TLDM Sandakan.

Kunjungan ini adalah bersempena Majlis Sambutan Hari Raya Aidilfitri YBhg PTL bersama warga The Navy People Sandakan serta seisi keluarga yang tidak dapat balik beraya di kampung. Tatkala orang lain sedang sibuk membuat persiapan hari raya bersama keluarga, sudah pasti ada insan yang sedang kesepian dek ber jauh dari keluarga. Insan-insan ini adalah mereka yang sedang bertugas di perbatasan.

Meskipun ada yang tidak dapat balik bersama keluarga, namun tidak bererti hari raya tidak diraikan. Perayaan Hari Raya Aidilfitri tetap disambut meriah di Markas Wilayah Laut 2 (MAWILLA 2), KD SRI SEMPORNA (KDSM) dan Pangkalan Laut Tun Sharifah Rodziah (PL TSR) bersama kehadiran YBhg PTL.



Aktiviti Menembak di Lapang Sasar RKTLDM Taman Samudera

YBhg PTL telah memulakan jelajah ke MAWILLA 2 pada hari pertama dan terlibat secara langsung dengan aktiviti menembak di Lapang Sasar Menembak RKTLDM Taman Samudera. Aktiviti ini dilaksanakan untuk menguji keupayaan dan kecekapan para pegawai dalam mengendalikan senjata kecil. Disamping, meningkatkan semangat spirit de corp dalam satu pasukan. Pada sebelah malam pula, YBhg PTL turut mengambil peluang menghadiri majlis berbuka puasa yang terakhir di tahun ini bersama warga MAWILLA 2.

Pada keesokan harinya, YBhg PTL telah menyantuni warga Pangkalan Laut Tun Sharifah Rodziah dan KD SRI SEMPORNA untuk sama-sama merayakan Hari Raya Aidilfitri. Antara pengisian semasa lawatan ialah penyerahan bungkusan raya dan ramah mesra bersama warga PL TSR dan KDSM.



YBhg PTL Berbuka Puasa bersama warga MAWILLA 2

Selesai sahaja acara di PL TSR dan KDSM, YBhg PTL kembali ke MAWILLA 2 bagi memenuhi jemputan sambutan Hari Raya Aidilfitri yang telah dirancang. Acara telah dimulakan dengan sesi bergambar bersama seluruh warga yang hadir memeriahkan dewan sebelum menjamu selera. Seterusnya, YBhg PTL telah menyempurnakan sesi penyampaian beg raya Angkatan mengambil peluang yang ada dengan meneruskan tradisi di hari raya iaitu memberi duit raya kepada anak-anak The Navy People yang hadir. Pemberian duit raya ini ternyata memberi kegembiraan kepada mereka, apa tidaknya, orang haus diberi air, orang lapar diberi nasi. Sudah menjadi lumrah zaman kanak-kanak untuk menerima dan diberi sampul berisi duit raya.

Sesungguhnya kehadiran Yang Berbahagia Panglima Tentera Laut pada kali ini bukan sahaja memberi peluang kepada warga The Navy People Sandakan bertugas menjaga perairan negara sepanjang Hari Raya Aidilfitri. Kedatangan beliau telah menyemai sikap dan menyuntik semangat kalimah ‘Sedia Berkorban’ Tentera Laut Diraja Malaysia kepada seluruh warga agar lebih komited demi menjaga perairan negara dari segala bentuk ancaman pencerobohan.

Lawatan kerja turut dihadiri oleh Panglima Armada Timur, Laksamana Madya Dato’ Pahlawan Muhammad Ruzelme bin Ahmad Fahimy dan Panglima Angkatan Kapal Selam, Laksamana Pertama Mohd Razib bin Tahir. 🇲🇾



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EKSESAIS NAGA EMAS 68/22: MENGUJI PENGGUNAAN TEKNOLOGI TERBARU DALAM OPERASI PASKAL

By: Lt Nadzrin Asraf bin Hassan TLDM - KD PANGKLIMA HITAM
Foto: Lt M Muhammad Syahmi bin Mohamad Basri PSSLTDM - KD PANGKLIMA HITAM

KD PANGKLIMA HITAM - Unit 1 PASKAL terus mempamerkan kesiagaan bagi mendepani misi-misi khas sebagai unit penggempur elit TLDM yang diterjemahkan melalui Ekseksais NAGA EMAS Siri 68/22 (ENE 68/22) yang telah dilaksanakan pada 26 Jul hingga 3 Ogos 22. Ekseksais ini adalah merupakan siri ekseksais di peringkat taktikal dan bertujuan bagi menguji kesiagaan serta keupayaan Tim Penggempur PASKAL dalam melawan keganasan maritim sekaligus menawan kembali kapal dagang milik Malaysian International Shipping Corporation (MISC).

Ekseksais ini melibatkan kolaborasi antara 2 Tim Penggempur PASKAL iaitu daripada KD PANGKLIMA HITAM serta KD SRI SEMPORNA yang memperlihatkan kesiagaan Tim Emas 1 dan Tim Emas 2. Objektif yang ingin dicapai dalam ekseksais ini ditafsirkan kepada objekif am iaitu menguji keupayaan PASKAL serta pihak-pihak terlibat dalam melaksanakan operasi anti rampasan kapal dagang. Selain itu, objektif khusus ekseksais ini adalah untuk menilai keupayaan PASKAL dalam melaksanakan operasi menyelamatkan tebusan. Konsep ekseksais dibahagikan kepada tiga fasa iaitu Field Integration Training, Field Training Exercise dan Post Exercise Debrief.

Pada amnya, ekseksais ini merangkumi aktiviti penyusunan dan penggempuran ke atas kapal sasaran yang bersaiz di sekitar perairan Pulau Gaya. Teknik Penyusunan bagi operasi menyelamatkan tebusan dilakukan melalui pendekatan penyelaman, hantaran permukaan dan hantaran udara. Pada masa yang sama, kapal sasaran juga berada dalam liputan perlindungan Aerial Sniper dari pesawat EC725 milik TUDM sepanjang operasi berlangsung. Di samping itu, bantuan dan perlindungan sepanjang ekseksais diterima menerusi kapal induk.

Antara penggunaan teknologi terbaru yang terdapat dalam TLDM adalah penglibatan Unmanned Aerial Surveillance (UAS) ScanEagle dalam ekseksais kali ini. Melalui taklimat serta Demonstrasi Keupayaan oleh Skuadron 601 di Stesen Udara Kota Kinabalu telah banyak memberikan gambaran dan idea baru sesuai dengan peranannya pada konteks Intelligence, Surveillance and Reconnaissance (ISR) dalam perancangan pelaksanaan ekseksais serta misi Tim Gempur PASKAL. Justifikasi UAS pada ISR adalah lebih praktikal serta efektif dalam proses pengumpulan maklumat disamping menyokong proses verifikasi maklumat perisikan dan resolusi imej yang tinggi membolehkan identifikasi maklumat yang lebih tepat.

Pesawat UAS ini telah dilengkapi dengan payload iaitu Electro Optic 900 (EO 900) yang merupakan kamera beresolusi tinggi bagi pengoperasian pada waktu siang serta Mid Wave Infra Red (MWIR) iaitu kamera

pengoperasian pada waktu malam. Keupayaan kedua-dua payload ini adalah merupakan elemen utama UAS ScanEagle yang membantu Tim Gempur PASKAL untuk melaksanakan ISR dengan berkesan pada ketinggian 3000 hingga 5000 kaki di udara tanpa meninggalkan sebarang jejak dan disedari oleh pihak musuh. Oleh itu, peranan dan fungsi UAS dalam ekseksais ini amat jelas dalam membantu menyalurkan maklumat dengan berterusan, pantas dan tepat dengan menjadi mata ketiga kepada Tim Gempur PASKAL.

Tambahan juga, pesawat ini juga mampu mengambil gambar dan merakam video dan dipancarkan secara near real time (NRT) kepada kru operasi di dalam Ground Control Station (GCS), pusat operasi serta unit operasi yang berkaitan. Kelebihan memaparkan imej secara NRT kepada mana-mana unit yang dikehendaki ini akan dapat memberikan situational awareness yang lebih jelas dan terperinci tentang situasi yang berlaku di medan bagi membantu dari aspek penilaian situasi dan keputusan yang perlu diambil oleh Commander in Field. Melalui pegawalan jarak jauh juga dapat mengurangkan risiko kepada Tim Gempur PASKAL daripada terdedah secara terus kepada ancaman pihak musuh.

Secara keseluruhannya, pengoperasian UAS ScanEagle oleh Skuadron 6-1 menerusi ENE 68/22 ini akan dapat memberikan nilai tambah yang tinggi kepada operasi elit PASKAL khususnya dan TLDM amnya. Kerjasama dua hala antara TLDM dan TUDM dapat dicapai berikutan pengoperasian UAS tidak menjejaskan penerbangan pesawat EC725 dalam pelaksanaan ekseksais tersebut. Oleh yang demikian, sekalong penghargaan atas kerjasama yang jitu diberikan oleh Skuadron 601 merupakan sebuah pengiktirafan daripada PASKAL kepada pasukan sahabat sepertimana yang termaktub dalam Special Operation Force Truth.

Secara keseluruhan, penglibatan Tim Emas 1 dan Tim Emas 2 diperhatikan berjaya mencapai kesefahaman melalui pelaksanaan beberapa siri perbincangan dan perkongsian idea dengan penekanan terhadap kepimpinan di setiap peringkat. Kelancaran pelaksanaan ENE 68/22 mempamerkan peranan yang dimainkan oleh setiap pihak yang terlibat dengan baik. Pendedahan sebegini secara tidak langsung dapat memastikan usaha PASKAL dalam memberikan pulangan pelaburan kepada negara mahupun perkhidmatan dan sentiasa relevan dalam menghadapi ancaman yang kompleks masa kini. Setiap halangan atau kekangan yang berlaku pada ekseksais memberikan ruang serta peluang dalam konteks pembelajaran serta penambahbaikan terutama kepada pasukan disamping mengeratkan hubungan dan menambahkan keyakinan MISC terhadap TLDM. 🇲🇾



Ucapan daripada Timbalan Panglima Armada Barat sebelum melaksanakan Pelayaran ke Karachi ,Pakistan. TPAB memberi amanat kepada semua Krew Lekiu Fihgter agar melaksanakan dengan baik cemerlang menjaga nama baik TLDM sepanjang Eksesais dijalankan dan mempamerkan semangat yang tinggi di dalam melaksanakan tugas dan tanggungjawab yang digalas membawa nama negara Malaysia amnya dan TLDM khasnya.

EKSES AIS MALPAK 5/2023

By: Lt Mohamad Izzat bin Shafie TLDM
- KD SRI SEMPORNA

Pada 18 Februari 2023 lalu, Tentera Laut Di Raja Malaysia (TLDM) membuka tirai eksesais luar negara melalui KD LEKIU di mana kapal tersebut telah menyertai Eksesais AMAN 2023 dan Eksesais Malaysia-Pakistan (MALPAK) di Karachi Pakistan yang bermula 10 hingga 18 Feb 2023. Penyertaan ini memainkan peranan penting dalam mendukung Tonggak Ketiga Strategi Pertahanan Negara iaitu perkongsian berwibawa melalui operasi atau aktiviti diplomasi pertahanan. Status TLDM sebagai rakan kongsi yang kredibel perlu terus dipelihara melalui usaha meningkatkan keupayaan aset TLDM agar setanding dengan angkatan laut negara sahabat.

AMAN 2023 yang diadakan serentak dengan Pakistan International Maritime Exhibition & Conference (PIMEC) turut disertai oleh 50 angkatan laut dari seluruh dunia dengan tema 'Together For Peace'. Ianya dapat meningkatkan

kebolehan operasi angkatan laut dari pelbagai negara dalam menangani ancaman maritim pelbagai bentuk dan dimensi. Seterusnya, berpeluang berinteraksi dan mengemas kini ilmu dan kemahiran melalui aktiviti Special Forces Operation yang memfokuskan kepada ancaman maritim dan anti keganasan.

Eksesais Malaysia-Pakistan (MALPAK) 5/23 dilaksanakan oleh KD LEKIU bersama PNS ZULFIQUAR bertujuan meningkatkan kebolehan kendalian dan kesefahaman aset TLDM serta TLP dalam operasi menangani ancaman konvensional dan bukan konvensional, yang melibatkan penggunaan aset udara TLDM Super Lynx dan juga PASKAL. Hal ini boleh dirumuskan bahawa kerjasama antara kedua-dua angkatan laut kekal utuh yang mana aktiviti diplomasi pertahanan sebegini sangat relevan serta memberi pulangan yang baik kepada negara yang terlibat. 🚩



Kedua - dua bahagian beratur setiap pagi apabila cuaca buruk, laut bergelora dan keadaan tidak mengizinkan untuk melakukan latihan jasmani pagi. Semua anggota krew lekiu fighter beratur bersama jaket keselamatan sebagai langkah keselamatan.



Walaupun dalam pelayaran yang panjang, tahap kesihatan fizikal, mental dan stamina setiap anggota perlu dijaga dan diambil berat. Aktiviti latihan jasmani pagi yang di ambil oleh anggota PTI dan anggota PASKAL.



Hari pembukaan Eksesais AMAN DAN MALPAK 2023 yang diwakili oleh panglima panglima setiap negara yang terlibat. Timbalan Panglima Armada Barat mewakili TLDM di hari pembukaan eksesais tersebut.



RMN need to invest in specialized training programs for its amphibious forces, focusing on amphibious assault tactics, beach reconnaissance, amphibious landings, and amphibious support operations. This training will enhance and prepare RMN's ability to conduct amphibious operations in diverse environments and under challenging conditions.



Anggota Special Service Group (SSG) Pakistan bersama Anggota Pasukan Khas Laut (PASKAL) yang terlibat dalam melaksanakan Eksesais MALPAK. Penglibatan anggota PASKAL dalam eksesais MALPAK secara tidak langsung dapat mengemaskini ilmu dan kemahiran melalui latihan bersama dan memfokuskan teknik special force operation anti keganasan dan ancaman maritim di rantau Asia.

Latihan penembakan senjata milik SSG Pakistan yang di lakukan oleh SSG, PASKAL, SRI LANKA SF, KUWAIT SF, AZERBAIJAN SF, OMAN SF, US SF, EGYPT SF, SAUDI ARABIA SF. Menembak di jarak 100m. Latihan penembakan ini bertujuan untuk memberi pendedahan kepada senjata yang di gunakan SSG. Selain daripada senjata M4 Carbine dan SIG – SAUER MPX, anggota PASKAL berpeluang menembak menggunakan rifle AK47 yang tidak terdapat di Malaysia.



Pengalaman bersama SF negara dunia lain, teknik dan pelaksanaan latihan yang tidak jauh beza cuma yang membezakan adalah kemahiran masing-masing didalam pengendalian senjata dari segi ketepatan dan kepantasan.



Pengalaman berharga dapat menembak menggunakan senjata AK47. Senjata yang digunakan oleh anggota SSG, AK47 yang telahpun di modifikasi mengikut kesesuaian medan dan keadaan.



Selesai latihan penembakan di Lapang Sasar HIMALAYA Pakistan. Walaupun masa latihan yang singkat, sedikit sebanyak pengalaman dan pertukaran kemahiran di antara SF negara lain dapat di ambil sebagai penambahan ilmu dan penambahbaikan kemahiran didalam pengendalian senjata.



Taklimat latihan di kawasan container box di sampaikan oleh SJN Hashim SSG. Latihan yang dilaksanakan adalah memanjat carving ladder pada mockup kontena sebagai persiapan untuk memanjat ke kapal dalam SSB yang akan dilakukan pada hari akhir penutup eksekusi MALPAK.



Persiapan taklimat ftx Eksekusi MALPAK yang di sampaikan komander Ali SSG sebagai ketua Tim Gempur kepada kedua tim iaitu tim airops anggota SSG dan tim SSB yang yang dianggotai oleh SF SSG, Azerbychan Sfdan PASKAL.



Mockup kontena yang di bina sebagai latihan memanjat kapal menggunakan carving ladder. Apa yang dititikberatkan semasa menaiki carving ladder tersebut perlulah melangkah step by step tanpa melangkau anak tangga tersebut dengan menggunakan skil atau kemahiran yang diberikan supaya pantas dan tidak berbuai semasa memanjat.



Pergerakan ke kapal PN 262 THAIMUR yang berada 28 BN menggunakan RHIB Bot yang mengambil masa ke titik srangan selama 2 jam. Persiapan akhir dan pemeriksaan keatas peralatan tim dan individu sebelum FTX pada 1245F.



Pelaksanaan FTX SSB ke atas kapal PN 262 THAIMUR tepat 1245F. Walaupun keadaan laut yang bergelora pada stage 3, latihan SSB dan Airops dapat di laksanakan dengan baik tanpa sebarang masalah dan kemalangan.

PERANG BORNEO

By: Lt Mohamad Izzat bin Shafie TLDM
- KD SRI SEMPORNA

Perang Borneo (PB) merupakan latihan intra TLDM di bawah seliaan Markas Pemerintahan Armada Timur (MPA Timur) yang dilaksanakan secara bulanan. Secara dasarnya, objektif utama pelaksanaan latihan PB adalah untuk meningkatkan tahap pengetahuan dan kecekapan warga kapal dalam aspek peperangan maritim, navigasi serta ilmu kelautan di samping memperagakan kehadiran aset TLDM di Zon Maritim Malaysia (ZMM). Selain itu, pelaksanaan latihan PB secara bulanan ini juga merupakan inisiatif untuk memastikan aset-aset Armada Timur khususnya sentiasa berada dalam keadaan siapsiaga dan bersedia untuk menyertai beberapa siri ekseseis berskala besar terutama sekali Ekseseis KERISMAS dan Chief Of Navy Inspection (CINSPEC) yang akan dilaksanakan secara serentak pada bulan Oktober tahun ini. Ia juga adalah selaras dengan hasrat Panglima Tentera Laut yang mahukan kompetensi warga TLDM dipertingkatkan.

Tempoh pelaksanaan PB yang dipraktikkan adalah selama tiga hari merangkumi dua fasa iaitu Fasa Pelabuhan dan Fasa Laut manakala lokasi untuk latihan PB adalah berdasarkan opportunity basis serta secara penggiliran sama ada di Pangkalan TLDM Kota Kinabalu (PTKK) ataupun Markas Wilayah Laut 2 (MAWILLA 2) di mana Bahagian Perancangan dan Kontigensi (N5) MPA Timur merupakan perancang utama untuk latihan ini. Fasa pelabuhan dilaksanakan secara berfokus di mana terdapat kelas teori untuk evolusi atau latihan tertentu akan dikendalikan oleh Bahagian Kesiagaan (N10) MPA Timur di samping perbincangan pegawai operasi (OPSO Discussion) serta pre-sail brief. Manakala bagi pelaksanaan fasa laut pula akan memfokuskan kepada aspek peperangan maritim seperti latihan penembakan meriam serta peperangan anti udara, aspek navigasi seperti pandu arah dan manuvera taktis, aspek ilmu kelautan seperti evolusi pemindahan jackstay serta aspek Mencegah Kebanjiran Melawan Api (MKMA).



Penglibatan pesawat Hawk semasa siri latihan Air Defence Exercise (ADEX).



PA Timur menyampaikan amanat kepada pegawai dan anggota kapal.

Komitmen dalam pelaksanaan latihan PB dapat dibuktikan dengan kejayaan MPA Timur dalam menjayakan latihan ini sejak tahun 2017. Sebanyak lapan siri latihan PB telah dirancang untuk dilaksanakan pada tahun 2022. Sepanjang penggal pertama tahun ini, sebanyak lima siri latihan PB telah berjaya dilaksanakan dengan jayanya dan seterusnya mencapai objektif yang telah digariskan. Kecekapan warga armada dalam mengimplementasikan konsep peperangan serta ilmu kelautan dan navigasi turut dinilai melalui latihan ini. Pendekatan dinamik ini diambil agar tahap kesiagaan kru kapal ketika berhadapan cabaran tidak terjangka berada dalam keadaan yang terbaik. Ianya juga selari dengan objektif untuk melahirkan warga Navy People yang bertaraf dunia melalui pelaksanaan latihan operasi yang berterusan seperti Perang Borneo. Panglima Armada Timur, Laksamana Madya Datuk Sabri bin Zali turut menekankan agar setiap siri latihan Perang Borneo dirancang dengan teliti untuk menguji tahap kesiagaan warga dan aset-aset di Armada Timur.

Berfokuskan kepada aspek kompetensi dan meningkatkan interoperability bersama pasukan sahabat, Tentera Udara Diraja Malaysia (TUDM) turut berganding bahu dalam setiap siri yang dirancang dengan penglibatan aset-aset seperti pesawat Hawk dan EC725 terutamanya untuk siri peperangan anti udara serta Deck Landing Training (DLT) mahupun Winching Exercise (WINCHEX) . Selain itu, latihan ini juga secara tidak langsung meningkatkan keyakinan atas kebolehan dan komitmen TLDM dalam mengekalkan keselamatan perairan khasnya Pantai Timur Sabah dan komuniti maritim setempat. Kemampuan aset-aset Armada Timur dalam melaksanakan keperluan operasi di Kawasan Operasi Maritim di Zon Keselamatan Pantai Timur Sabah (ESSZONE) dapat diterjemahkan melalui latihan ini.

Sesungguhnya melalui pelaksanaan latihan PB secara berkala ini dilihat telah menunjukkan hasil di mana kesiagaan aset-aset Armada Timur dan tahap kompetensi warga kapal meningkat, namun masih terdapat terdapat banyak perkara yang perlu ditambahbaik. Di samping itu, Pegawai Memerintah kapal juga digalakkan memainkan peranan dengan melaksanakan latihan berterusan dalam usaha meningkatkan kompetensi individu yang sekali gus menyumbang kepada peningkatan keupayaan kapal. 🔄



Situasi di Pusat Informasi Tempur semasa fasa laut.



Pelaksanaan evolusi Heaving Line Transfer (HLT).



Latihan DLT oleh pesawat Fennec bersama kapal PV.





LATIHAN GABUNGAN BERSAMA MALAYSIA INDONESIA DARAT SAMUDERA ANGKASA (LATGABMA MALINDO DARSASA) 11AB/2023

By: Lt Kdr Shuhaimi bin Ahmad TLDM
- KD PANGlima GARANG

LATGABMA MALINDO DARSASA merupakan eksekusi bilateral melibatkan gabungan pasukan keselamatan dua buah negara serumpun iaitu Malaysia dan Indonesia. Ianya menghimpunkan ketiga-tiga cabang perkhidmatan melibatkan Angkatan Tentera Malaysia (ATM) dan Tentera Nasional Indonesia (TNI). Eksekusi ini dilaksanakan setiap tiga tahun secara timbal balas melibatkan penganjuran di Malaysia dan di Indonesia.

LATGABMA MALINDO DARSASA Siri 11AB/2023 sekali lagi telah berjaya dilaksanakan dengan penuh gemilang seperti yang telah dirancang. Majlis Pembukaan Eksekusi LATGABMA MALINDO DARSASA Siri 11AB/2023 telah disempurnakan oleh Assisten Ketua Staf J3 Markas Angkatan Bersama, Mejar Jeneral Dato' Nur Hafis bin Abdul Karim TUDM secara bersama dengan Asisten Operasi Panglima TNI, Mayor Jenderal TNI Agus Suhardi bertempat di PLKN Semarak, Pekan Pahang pada 13 Mac 23.

Objektif utama eksekusi pada kali ini adalah untuk mewujudkan strategi cegah rintang dan strategi tindakan terhadap ancaman dari kumpulan yang ingin mengancam kedaulatan MALINDO, mewujudkan interoperability dalam kesiagaan ATM dan TNI bagi menghadapi ancaman pengganas dan juga bagi menguji PROTAP No.16 (Operasi Gabungan Bersama MALINDO Bagi Menangani Ancaman Keganasan) dan PROTAP No.18 (Prosedur Menangani Keganasan). Fasa eksekusi dibahagikan kepada 4 fasa merangkumi Fasa Persiapan, Latihan STAFFEX dan Latihan Intergrasi Pasukan (FIT), Fasa Latihan Medan (FTX) dan Post Exercise Debrief (PXD).

Secara keseluruhannya, objektif yang digaris dengan bertemakan latihan anti keganasan telah berjaya dicapai dengan jayanya. Ini dapat dirumuskan melalui persembahan akhir eksekusi yang menyaksikan ketiga-tiga pasukan khusus dari kedua-dua buah negara beraksi menyerbu dan menumpaskan pihak musuh. Aksi tersebut turut mendapat penghargaan dari Pemangku Raja Pahang, Tengku Mahkota Tengku Hassanah Ibrahim Alam Shah Ibni Al-Sultan Abdullah Ri'ayatuddin Al-Mustafa Billah Shah. Eksekusi seterusnya dijangka akan dilaksanakan di Indonesia pada tahun 2026.

Penglibatan eksekusi melibatkan 611 orang peserta yang terdiri daripada 461 anggota dari Malaysia termasuk dua Pegawai Pemerhati dari Polis Diraja Malaysia (PDRM). Manakala penglibatan dari Indonesia terdiri daripada 150 anggota tentera dan dua Pegawai Pemerhati Polis Republik Indonesia (POLRI). Dari sudut penglibatan aset, pihak ATM telah mengerahkan 4 buah kenderaan Gempita 8 x 8, enam buah Rapid Intervention Vehicle (RIV) Tentera Darat Malaysia (TDM), sebuah Ambulans Medan Kor Kesihatan Diraja (KKD), dua buah Ambulans Domestik KKD, dua buah Bot Tempur SOC TDM, 2 buah RHIB TLD, 2 buah Helikopter Agusta A109 TDM dan 2 buah Helikopter EC725 AP dari TUDM.

Konsep eksekusi kali ini bertemakan anti keganasan (counter terrorism). Kedua-dua buah negara telah bergabung tenaga dari sudut perancangan eksekusi dan melaksanakan latihan praktikal di medan yang melibatkan serangan 3 dimensi iaitu menangani ancaman melalui darat, laut dan udara. Gabungan ketiga-tiga Pasukan Khas dari kedua-dua negara merupakan satu pengalaman berharga didalam usaha berkongsi kaedah dan mengenal taktik serta teknik terbaru berkaitan ancaman keganasan di negara masing-masing.

Sesuai dengan konsep latihan pada kali ini, Pasukan Khas Laut (PASKAL) telah digabungkan dengan pasukan Detasemen Jala Mengkara (DENJAKA). DENJAKA merupakan gabungan dua pasukan dari TNI-AL iaitu Komando Pasukan Katak (KOPASKA) dan Batalyon Intai Amfibi (TAIFIB). Kedua-dua pasukan khusus ini terkenal dengan kemampuan serta memiliki kemahiran yang tinggi

didalam ilmu melawan keganasan maritim. Mereka juga turut berkeupayaan didalam percaturan untuk menangani perang 3 dimensi.

Di samping itu, Gerup Gerak Khas (GGK) dari TDM telah digabungkan dengan Komando Pasukan Khusus (KOPASSUS) dari TNI-AD manakala Pasukan Khas Udara (PASKAU) dari TUDM telah digabungkan serta melaksanakan latihan bersama pasukan Komando Pasukan Gerak Cepat (KOPASGAT) dari TNI-AU. Pelbagai aktiviti medan meliputi penyampaian Perintah Operasi, Raptai Penggempuran ke atas penganas dan serangan akhir ke atas sasaran bangunan berjaya dilaksanakan tanpa sebarang kemalangan yang tidak diingini berlaku.

Pemangku Raja Pahang, Tengku Mahkota Tengku Hassanah Ibrahim Alam Shah Ibni Al-Sultan Abdullah Ri'ayatuddin Al-Mustafa Billah Shah telah mencemar duli menyaksikan serbuan akhir Latihan Medan (FTX) di Bangunan Hotel Ancasa. Seterusnya Baginda menganugerahkan 'Wing Freefall' kepada 12 orang penerjun bebas dari ATM dan TNI di Padang Majlis Daerah Pekan (MDP). Turut hadir adalah Yang Berhormat Menteri Besar Pahang, Duta Besar Republik Indonesia ke Malaysia, AKS J3 serta pegawai-pegawai kanan ATM dan TNI.

Seterusnya pada sebelah petang telah diadakan majlis penutup eksekusi yang telah disempurnakan oleh Panglima Angkatan Bersama, Leftenan Jeneral Dato' Noor Mohamad Akmar bin Mohd Dom bersama Panglima Komando Gabungan Wilayah Pertahanan I, Laksamana Madya TNI Irvansyah. 🇲🇾



Peranan & Sumbangan FCB pada OP Benteng LAUT di Sektor Utara

By: Lt Shahrul Rizal bin Normi TLDM
- MK PANGKALAN LUMUT

Tentera Laut Diraja Malaysia (TLDM) secara rasminya telah menerima 6 buah Fast Combat Boat (FCB) G2000 pada 19 Mac 21. Perolehan FCB ini melalui Projek Operasi Benteng Laut dibina sepenuhnya oleh Gading Marine Industry (M) (GMI) Sdn Bhd pada Ogos 20 yang lalu di Limbungan GMI, Lumut Port Industrial Park, Perak. Dengan menggunakan cetusan idea dan tenaga anak tempatan, FCB mengambil tempoh 5 bulan untuk disiapkan. FCB ini seterusnya akan ditempatkan di seluruh Pangkalan TLDM dan terdapat 2 buah FCB akan diletakkan di bawah pengoperasian Markas Wilayah Laut 3 (MAW ILLA 3) bagi penugasan Op Benteng Laut 1.

FCB ini dilengkapi dengan beberapa kriteria penting sebuah bot pemintas seperti system dorongan w'ater jef/ yang mampu mencapai kelajuan sehingga 50 batu nautika sejam dan system pengesanan yang canggih. FCB turut dilengkapi dengan keupayaan pengawasan pada waktu malam, kamera Forward Looking Infrared (FLIR), dengan lensa sehingga 30x optical zoom dan Automatic RADAR Plotting Aid (ARPA). FCB juga boleh dioperasikan dengan Quick Reaction Team (QRT) bagi melaksanakan sebarang operasi pengeledahan sebilang masa. FCB ini juga boleh bertindak sebagai force multiplier kepada kapal-kapal TLDM dalam meningkatkan keupayaan menangani pencerobohan di Kawasan-kawasan cetek dan juga perairan berpulau.

Peranan-peranan FCB seperti operasi pemintasan, rondaan pesisir pantai dan pengeledahan yang digariskan dilihat mampu menangani kegiatan-kegiatan rentas sempadan seperti penyusupan PATI dan penyeludupan barang-barang terlarang. Disamping peranan FCB yang telah dinyatakan, FCB juga ditugaskan sebagai platform sokongan logistik kepada kapal-kapal TLDM yang sedang beroperasi di laut dan juga berupaya melaksanakan operasi Search And Rescue (SAR).

Penempatan FCB 1325 dan FCB 1326 dilihat sedikit sebanyak dapat membantu Markas Wilayah Laut 3 dalam liabiliti aset dan sokongan operasi terutama sekali penglibatan Op Benteng Laut di sektor utara. Keluasan Kawasan Operasi Maritim (KOM) dianggarkan 18.000 batu nautika persegi memerlukan aset-aset TLDM dan agensi sahabat bagi mengekang kemasukan PATI ke sempadan negara dan bot nelayan asing yang melaksanakan aktiviti perikanan di kawasan Zon Ekonomi Eksklusif (ZEE).

Pelaksanaan Op Benteng Laut yang melibatkan kerjasama daripada agensi Sāhābat seperti Agensi Penguatkuasaan Maritim Mdlāysia, Polis Marin, Jabatan CāSUr0 dan lain-lain dilihat memberi impak yang positif sejak diaktifkan pada Mei 20 tempoh hari. Dengan penambahan 2 buah -CB di sektor utara ini sekaligus memberi petunjuk bahawa TLDM serius dalam membenters jenayah rentas sempadan terutama Sekali di perairan Langkawi

Kesimpulannya, penempatan 2 buah FCB iaitu FCB 1325 dan FCB 1326 di MAWILLA 3 dilihat satu langkah yang holistik bagi pelaksanaan operasi dan kesiagaaan aset terutama sekali Op Benteng Laut 1/20. Memiliki kelajuan dan berupaya mengesan kontak-kontak pada jarak melebihi 24 batu nautika. Perolehan aset TLDM ini memainkan penting dalam operasi pemintasan, rondaan pesisir pantai dan sebagai aset sokongan terhadap keperluan operasi maritim di sektor utara. 🚢

INTEGRATED TEAM TRAINING (ITT) 1/23

By: P/PW II (I) (H) Norazreen bin Azemi TLDM
- PUSTAKMAR

Integrated Tactical Training (ITT) siri 1/23 telah dilaksanakan di Markas Wilayah Laut 2 di Sandakan pada 17 hingga 21 Jul 23. Latihan ini telah dihadiri seramai 33 pegawai daripada pelbagai cawangan dan latar belakang bagi melaksanakan latihan penyediaan CONOP untuk menghadapi sebarang ancaman atau krisis melalui Joint Military Appreciation Process (JMAP). Latihan ini dikoordinasikan oleh pegawai PUSTAKMAR iaitu Lt Kdr Sasmi Hasanudin Bin Shahbudin TLDM dan Lt Kdr James Tew RAN pegawai daripada Tentera Laut Australia serta di bantu oleh Excon staf PUSTAKMAR.

Integrated Tactical Training (ITT) ini merupakan kesinambungan kepada Latihan olah perang yang dilaksanakan di PUSTAKMAR bagi melatih dan menilai keupayaan melaksanakan perancangan operasi maritim. Latihan ini dilaksanakan untuk untuk mempertingkatkan kefahaman dan pengetahuan mengenai pelaksanaan Operasi Bersama bagi membolehkan peserta dalam merancang operasi di peringkat operasional.

Latihan (ITT) juga dilihat sebagai satu platform yang menghimpunkan pegawai-pegawai atau Subject Matter Expert (SME) yang berpengalaman untuk membantu TLDM merangka strategi atau langkah penyelesaian kepada pelbagai isu. Metodologi yang digunakan dalam latihan ini adalah perbincangan merangkumi percambahan minda, pengumpulan data dan analisis, persembahan dan penghasilan kertas kajian agar strategi serta langkah penyelesaian yang dicadangkan kepada pihak Pengurusan Tertinggi TLDM adalah benar-benar konstruktif.

Seterusnya, latihan ini bertujuan menyelaraskan perancangan dan pelaksanaan latihan dalam memastikan persediaan dan pengendalian berjalan lancar. Objektif latihan ini adalah memberi pendedahan kepada pegawai dan anggota di Markas Wilayah Laut 2 terhadap penyediaan CONOP bagi menghadapi sebarang ancaman atau krisis melalui Joint Military Appreciation Process (JMAP). Latihan ini juga dapat menilai kebolehan dan kecekapan staf Markas bertindak menangani krisis.

Integrated Tactical Training (ITT) menerapkan beberapa konsep iaitu sesi pembelajaran yang menerangkan bagaimana penggunaan planning tool yang digunakan iaitu MAFJP 5-01.1 JMAP 5 step. Selesai pembelajaran akan disusuli dengan latihan praktikal. Single theatre pula melibatkan krisis di Kawasan Laut China Selatan dibawah pemerintahan Markas Wilayah Laut 2. Konsep Operasi, penghasilan CONOP oleh N-Staffs Markas berdasarkan mock up data yang diberi oleh pengendali latihan.

Pada hari terakhir (ITT), pembentangan hasil latihan telah disampaikan oleh Ketua Tim iaitu Kdr Mohd Firdause bin Aziz TLDM. Pembentangan yang disampaikan turut menyentuh kepada pembangunan kompetensi warga Markas Wilayah Laut 2 disamping memberi penekanan dalam memperkasakan penyediaan CONOP bagi menghadapi sebarang ancaman atau krisis melalui Joint Military Appreciation Process (JMAP).

Kesimpulannya, (ITT) SIRI 1/23 telah dilaksanakan dengan jayanya dan hasil dapatan daripada latihan ini dibawa ke peringkat tertinggi TLDM untuk diperhalusi. 🔄



US-CHINA RIVALRY IN SOUTH CHINA SEA AND ITS IMPACT ON MALAYSIA MARITIME INTEREST

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Abstract

After the formation of The People's Republic of China (PRC) in 1949, China went through a significant transformation, rising to be the emerging power both in trade as well as military. It's provocative 9-dash line has been laid out as the basis of China's claim on the greater portion of SCS due to historical reasons. This is opposing to the provision of UNCLOS which protects the interest of adjacent coastal states. This aggressive claim has narrowed the Economic Exclusive Zone (EEZ) of other claimant states. Such detrimental position will jeopardize the access of the claimant states to the oil and gas reserves as well as fishing and ocean resources. Being the non-claimant state, the presence of the United States is pertinent to balance the assertiveness of China in SCS. This complex and ambiguous conflict affects Malaysia's maritime interest in terms of maritime security, state sovereignty, geopolitics, diplomacy, economic impact, fisheries management as well as environment which will be systematically discussed in this article. Keywords: Emerging Power, Coastal States, Economic Exclusive Zone (EEZ), Ambiguous Conflict, Maritime Security

1. Abstract

Malaysia as a "Maritime Nation" is strategically located on the global map as well as being blessed by the Almighty with a great magnitude of stability in the political, economic and social aspects. Its reputation rose from the expertise of the seafarers from the Malay Archipelago whom were famously known as Viking of the East since time immemorial (Ali, 2010). Its undeniable strength as connecting point between the Indian Ocean, the South China Sea (SCS), the Nusantara inland seas and the Pacific Ocean reinforced our maritime capability which contributed to the rise and flourishing of major ports in Malaysia (Xiaowen et al., 2018). In order to protect its maritime interest, Malaysia believes that it has irrefutable right to maintain good order at SCS within its Economic Exclusive Zone (EEZ) (Hamzah, 2013). This ensures our vital Sea Lines of Communication (SLOCs) are continuously safe and secure.

Observing from a geopolitical standpoint, we are actually sharing maritime boundaries with Brunei, China, Indonesia, the Philippines, Singapore, Thailand and Vietnam. Having a coastline measuring 4,800 km (Hassan & Rahmat, 2016), Malaysia has to maintain its security and sovereignty whilst preventing the possibilities of untoward incidents and infiltrations originating from the sea.

Notwithstanding, we should bear in mind the fact that military clashes and standoffs resulting from overlapping maritime claims amongst neighbouring countries took place occasionally although Malaysia handles these disputes diplomatically in accordance with UN Convention on the Law of the Sea (UNCLOS). Whilst these disputes are deep-rooted, the growing rivalry of the United States and China in Asia especially in SCS region will profoundly impact Malaysia's maritime interest (Parameswaran, 2015).

This imaginary US-China war is the reflection of Thucydides maxim of the unavoidable conflict between an established preponderant power and a rising security seeking state (Congressional Research Service, 2020). Realizing the effect of the "Malacca Dilemma", China has further developed its power projection capabilities to reinforce its sovereignty claims over the SCS (Thayer, 2010). Being the non-claimant state, the presence of the United States is pertinent to balance the assertiveness of China in SCS (Raditio, Raditio, & Daryanomel, 2019). This complex and ambiguous conflict affects Malaysia's maritime interest in terms of maritime security, state sovereignty, geopolitics, diplomacy, economic impact, fisheries management as well as environment which will be systematically discussed in this article.

2. The Rising of a Security Seeking State: China

Surviving the darkness periods of civil war and foreign invasions has greatly inspired the Chinese Communist Party (CCP) to revolutionize the country which led to the formation of The People's Republic of China (PRC) on 1st October 1949. Under the leadership of Mao Zedong, China stood up to achieve its ambition to be on the top of global hierarchy as indicated in its Hundred-Year Marathon pledge (Pillsbury, 2015). With the death of Mao in 1976 and the arrest of the "Gang of Four", the helm was taken over by Deng Xiaoping in 1978 and he was instrumental in China's economic modernization, significant poverty reduction, upgrading and expansion of its People's Liberation Army (PLA) whilst gaining greater political orderliness (Cole, 2016; Dreyer, 2018). In developing its foreign and defence policy, the ultimate driver is China's vulnerability to threats. Nathan and Scobell (2012) asserted that these security concerns could be further classified into four distinct circles. China believes that its First Ring of threat is related to domestic political stability which could be distorted by foreign actors or forces. The Second Ring is associated to its border disputes with the twenty neighbouring countries since 1949.

Multidimensional diplomatic and security concerns pertaining to China's involvement in six regional systems formed the Third Ring. The final outer Fourth Ring ensembles its desire on pertinent commercial and diplomatic matters as shown Figure 1. These four circles act as a beacon for China's security challenges which lays the foundation to its status as a security seeking state.



Figure 1: Multifaceted Drivers of 4th Ring (Modified from Nathan & Scobell (2012)) Realizing the dream of becoming a China World Order in 2049 has been the main priority of President Xi Jinping since he took office in March 2013. Being a strong believer of defensive realist, Xi has recognized the presence of a powerful military is compulsory in safeguarding its sovereignty as well as maritime related rights and interests (Cole, 2016). Hence, this provided the strong background for China to emerge as a National Security State and being assertive in nature for the foreseeable future.

3. An Ideal Rebalancing Act: The Pivot Strategy by the United States

As the role of the United States in Afghanistan and Iraq has been significantly reduced due to ever-

growing concerns on domestic economy deterioration which saw the rise of China as emerging power both in trade as well as security, the Obama's administration realized the need for countering this development via a wisely designed tour de force (Silove, 2016). Obama announced the Asia Pivot Strategy in November 2011. Lieberthal (2011) claimed that this bold move departed from the gap created by the previous George W. Bush's administration with minimal focus to Asian regional issues. This provided the ultimate reason for Obama to champion the need to re-establish and heighten the presence of the United States in Asia. The aforementioned strategy focuses on a more balanced approach on economic, diplomatic and security related matters in the context of US-China relationship.

In the recent years, the American strategy took a radical shift under President Donald Trump who believes that Asia Pivot Strategy was neither appropriate nor grounded and he is reluctant to continue at the approach involving the US in the region. Contrary to Obama, Trump has openly accused China as an imminent threat to the United States (Trump, 2016). The Trump administration is navigating the United States out from its economic pain which has induced trade war with China as President Trump trusts the Chinese has been the backstage actor of US trade deficit, intellectual property theft, plummeting unemployment rate as well as manipulation of currency (Kolmaš & Kolmašová, 2019). This is further exacerbated given that the Trump administration has given more decision-making authority to the US military involvement in the disputed region of South China Sea (Zhen,

2019). Upon taking office, President Joe Biden continued the Asia Pivot Strategy championed by Obama negating Trump's stand (Peters, 2022). This will certainly pressurise China to continue its ongoing island building activities resulting in expansion of China's footprint elsewhere across Asia (Boros, 2021). Thus, these insecurities signify the United States lacks of strategic trust in China which could lead to unnecessary escalation of hostility between the two major powers including its spillover effect on South China Sea.



4. Growing Tension Between US-China in South China Sea

Apart from Taiwan issue, the South China Sea (SCS) disputes positions the utmost perilous potential for conflict in the Asian maritime landscape. Basing upon historical context, China puts forth its unequivocal claim on SCS. China had released a map in 1947 establishing the much controversial 9-dash line and that has been used to the present date as the basis for defending its territorial disputes and maritime claims. According to Wu (2013), China has been reinforcing their claims within the 9-dash line based on the concept of historic waters comprising the earliest efforts related to the discovery, naming, effective occupation and enforcement of local law on the related areas in SCS. The ambiguous U-shaped line has been subjected to debate by other claimants as it contradicts United Nations Convention on the Law of the Sea (UNCLOS) which prohibits any claims beyond Economic Exclusive Zones (EEZs) and continental shelves (Bader, Lieberthal, & McDevitt, 2014; Schofield, 2008). With the implementation of EEZ via UNCLOS in 1982, situation became much intense as China refused to participate in any international arbitration pertaining to claims by neighbouring states which is a clear testament it is against the international law that will impede its historical claims on SCS (Beckman, 2010). The maritime territorial disputes in SCS is summarised and illustrated in Figure 2.



Figure 2: Maritime Territorial Disputes in South China Sea (Source: Author)

In its quest for regional primacy, China has built military bases on man-made islands in SCS, namely on Fiery Cross Reef, Subi Reef, Cuarteron Reef, Mischief Reef, Johnson Reef, Hughes Reef and Gaven Reef. Chronologically, the existence of military clashes between China and claimant states goes back to as early as 1974 with Vietnam forces at Paracel Islands, in 1988 near Fiery Cross Reef and ousting of the Philippines forces from the Mischief Reef in 1995 (Dutton, 2011). The Chinese forces are well known for being strategically defensive while operationally offensive and they had successfully leveraged on the concept of The Cabbage Strategy in handling their opponents at SCS (Erickson, 2016; Kingdon, 2015).

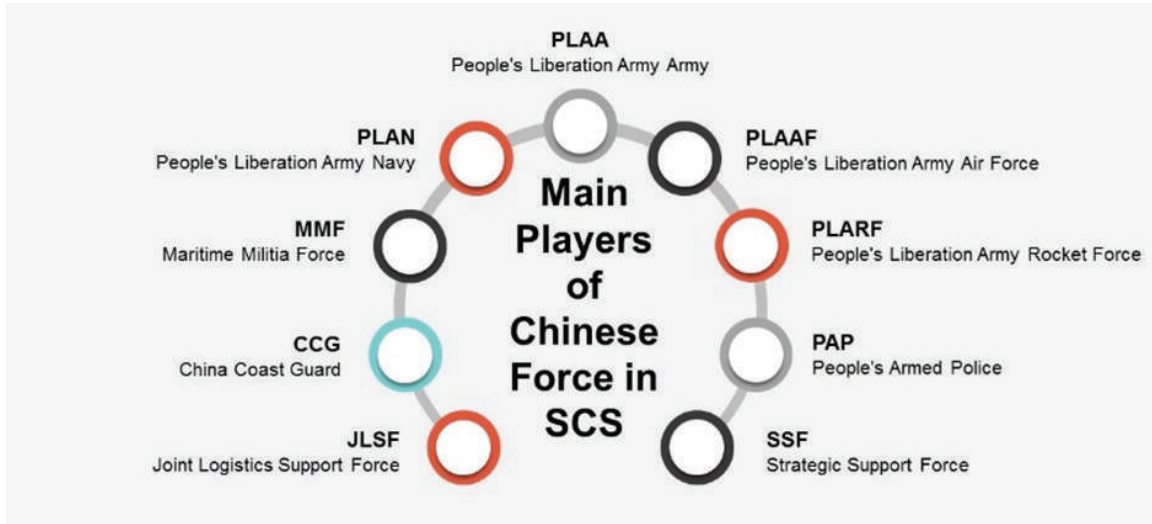
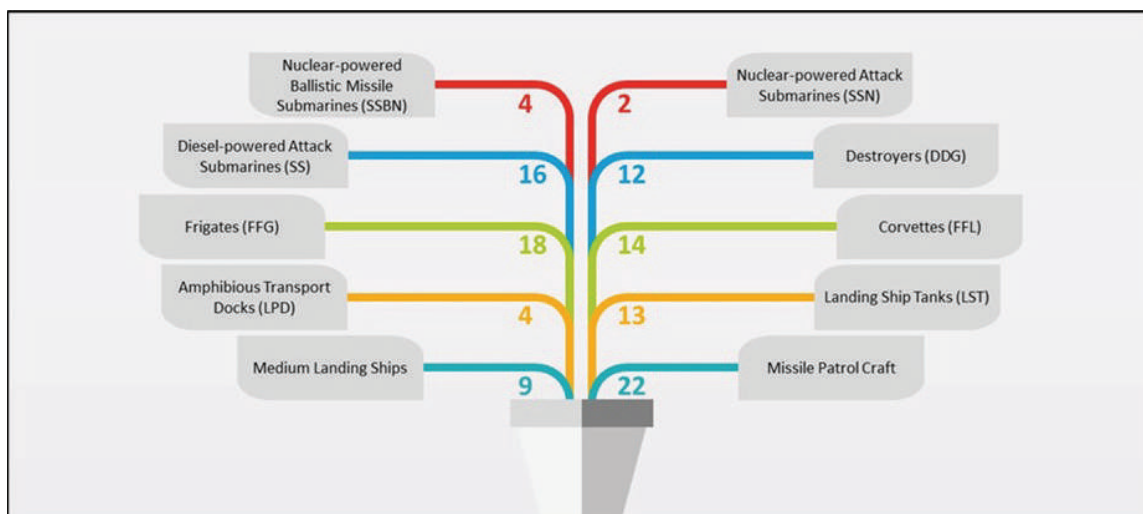


Figure 3: Chinese Integrated Force in Aggressing SCS (Source: Author)

Figure 3 depicts the integrated force which are integral for China's anti-access/area denial (A2/AD) and power projection capabilities in SCS. The ever-growing Southern Theater Command of PLA Navy based in Zhanjiang plays a bigger role in militarising SCS with multi-role platforms as illustrated in Figure 4. As China being perceived as an emerging assertive power of this region, we could not rule out the likelihood of any future direct military conflicts with other claimants in the SCS. These assertive developments might jeopardize the strategic interest of the United States in the Western Pacific in terms of commercial trade, security commitments to its allies whilst frustrating the underlying efforts by China in establishing itself as a regional hegemon and defending the principle of freedom of seas.



As the risk is getting greater day by day, the US has to sail forward into a leadership role to maintain the status-quo in SCS. Hoyer (2019) supported the act as mandatory due to the involvement of US firms in the exploration of oil and gas in this region which also might influence the world oil prices. Chinese progressive aggression in SCS has created the urge of the US to look into its possibility of involvement in future military intervention should in case a crisis or conflict arises between China and Taiwan (Haas, 2017). The US is torn in between its diplomatic relationship with China and its obligations under defense treaties with Japan, the Philippines, South Korea and Vietnam. The failure of the US to reduce the dominance of China would alter the regional security architecture as neighbouring states begin to have doubt on American staying power within this region.

Figure 4: The Growth of PLA Navy (Southern Theater) as of 1 January 2019 (Modified from Office of the Secretary of Defense (2019))

Finally, US-China ties in SCS is at stake as the Chinese is impeding its principle of Freedom of Seas (also known as Freedom of Navigation (FON)) (Congressional Research Service, 2020). The US firmly believes that it is essential to have freedom for both civilian and military ships and aircrafts to conduct various activities at sea or in the space above. Nevertheless, the Chinese has different perspective regarding to the law of the sea and coupling with its action in SCS has posed a strong resistance to the Freedom of Seas. With the enforcement of its 9-dash line, the coverage of FON has been narrowed with China views that coastal states have the rights to control the presence of foreign military forces within their EEZs. That being said, the US Navy had several high risk intimidations from the Chinese law enforcement and paramilitary vessels while conducting their Freedom of Navigation Operations (FONOPs) in SCS. Several incidents had shown the repulsive act of China such as the collision of a US Navy EP-3 surveillance plane with a PLA Navy F-8 fighter jet over the SCS in April 2001 followed by harassments on USNS Impeccable in February 2009 and USS John McCain in June 2009. Such obstruction to FONOPs could hamper the ability of the US military forces in defending its strategic interests globally. Hence, FONOPs is leveraged to defy the restrictions of innocent passage and act as a testament of US-China rivalry in SCS which shapes the political, economic and military setting in this region.

5. The Ripple Effects on Malaysia's Maritime Interests

Apart from Taiwan issue, the South China Sea (SCS) disputes positions the utmost perilous potential for conflict in the Asian maritime landscape. Basing upon historical context, China puts forth its unequivocal claim on SCS. China had released a map in 1947 establishing the much controversial 9-dash line and that has been used to the present date as the basis for defending its territorial disputes and maritime claims. According to Wu (2013), China has been reinforcing their claims within the 9-dash line based on the concept of historic waters comprising the earliest efforts

related to the discovery, naming, effective occupation and enforcement of local law on the related areas in SCS. The ambiguous U-shaped line has been subjected to debate by other claimants as it contradicts United Nations Convention on the Law of the Sea (UNCLOS) which prohibits any claims beyond Economic Exclusive Zones (EEZs) and continental shelves (Bader, Lieberthal, & McDevitt, 2014; Schofield, 2008). With the implementation of EEZ via UNCLOS in 1982, situation became much intense as China refused to participate in any international arbitration pertaining to claims by neighbouring states which is a clear testament it is against the international law that will impede its historical claims on SCS (Beckman, 2010). The maritime territorial disputes in SCS is summarised and illustrated in Figure 2.

5.5 Economic Impact

Malaysia is strategically located in the SCS and we are proud to have Port Klang to be the 12th busiest container port in the world for 2017, followed by Port of Tanjung Pelepas at 19th (Xiaowen et al., 2018). More than 40% of global commerce takes place in Asia with \$3.5 trillion worth of world's shipping trade flows through SCS annually (Chakraborti & Chakraborty, 2020). This amplifies the persistence of China to obtain the control over the major shipping routes that pass via SCS which connects Western Pacific to the Indian Ocean and the Persian Gulf. Hence, it is imperative to ensure the safe passage of commercial vessels in our waters. Any provocative act with China would endanger our sea lines of communication causing interruption to supply chains and trade flows which in turn are detrimental to our economy. In addition to that, the US-China jostling for influence in SCS to a certain extent impacted Malaysian maritime tourism and recreation which contributes significantly towards our economic growth.

5.6 Fisheries Management

It is interesting to note that 10% of global fisheries are concentrated in SCS (Cole, 2016). Malaysian economy is also supported by the flourishing fisheries industry with 134,000 fishermen and this sector produced 1.74 million tons of fish valued at RM10.18 billion and contributed to trading value amounting to RM6 billion in 2016 (Badaruddin & Nor, 2018). However, dwindling fishery catches at SCS coastal areas due to overfished or fully fished has been reported since 2012 (Congressional Research Service, 2020). This has forced the fisherman from the coastal states to explore the deep seas within their EEZs. However, with the advent of the provocative Chinese 9-dash line, local fishermen trawlers had been considered of entering the contested waters and subject to fierce competition with foreign fishing vessels as well as

harassment by China Coast Guard (CCG) especially at Luconia Shoals (Liu, Zou, Wu, & Spangler, 2017). This could impede the growth of income from our fisheries sector.

5.7 Environment

In its effort to establish prominence in the SCS, China has carried out massive land reclamation works for island building on numerous reefs. Huang et al.(2015) clarified that SCS is the home for 571 species of reef coral whereby 333 species of coral could be found in the Spratly Islands. In the past, China Coast Guard (CCG) has been closing their eyes on the illegal clam harvesting which scar as well as destroy the reefs and this has been reprimanded in the Permanent Court of Arbitration (Zhang, 2016). This is the environmental damages caused by the Chinese aggressors in the SCS. From the another standpoint of environment, the island building activities by China has significantly narrowed the distance of between the Chinese naval power presence and our Royal Malaysian Navy (RMN). This unprecedented setting could raise the risk of incidents between both parties and has been the concern of both politicians and military leaders in Malaysia (Liu et al., 2017).



6. Conclusions

Alike other claimant states in SCS, Malaysia has its fair share of the impacts from the US-China rivalry in SCS in terms of maritime security, state sovereignty, geopolitics, diplomacy, economic impact, fisheries management as well as environment. It is envisaged that both economic and military powerhouses should focus on coexistence before things spiral out of control. In its endeavour to be the emerging global figure, it would be an ideal scenario if China be contented with its achievement so far and should be more considerate in creating a harmonious environment for the other littoral states including Malaysia. Hence, Malaysia needs to be steadfast on its strategic alignment in dealing with the two major powers. 🌀

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Small Vessels in Maritime Warfare: From Traditional Roles to Innovative Strategies

By: Lt Cdr Mohd Aswad bin Zakerya RMN
- KD PANGLIMA HITAM

Small vessels, typically measuring less than 20 metres in length, have historically served various purposes such as transportation, fishing, marine product collection, diving platforms, cargo transfer, and rescue operations. Throughout the historical development of maritime operations, the functions of these vessels have become increasingly varied, encompassing roles such as patrol boats, hydrographic survey vessels, amphibious landing platforms, mine destroyers, interceptors, lead-through boats, vanguard boats, and more. The presence of these boats has had a notable influence on the effectiveness and outcomes of the operations they are involved in. Several nations have begun utilising these boats as a primary asset for operations principally conducted in coastal or riverine regions, due to their advantageous capabilities in terms of size, speed, and manoeuvrability.

In the context of the Vietnam War, the United States military employed these watercraft for a range of strategic purposes, including river patrols, escorts, ambushes, raids, reconnaissance, blockades, and acts of sabotage. These activities encompassed covert infiltration and extraction operations involving Sea Air and Land (SEAL) personnel, which inflicted significant casualties upon the Vietcong forces. In order to fulfil the objectives of the assignment, these vessels have been specifically designed and outfitted with a range of essential equipment, including machine guns, high-performance engines, radio communication systems, radar technology, and enhanced crew protection measures to ensure their survival.

Some globally recognised special forces units have recently incorporated maritime airdrops into their operations in order to enhance the scope of infiltration into hostile territories. Notably, the Malaysian Armed Forces' PASKAL and PASKAU have already acquired this capability.

In response to the COVID-19 pandemic, Malaysia has implemented measures to enhance border security with the objective of mitigating the potential impact of unauthorised immigration, which is perceived as a factor that could exacerbate the prevailing circumstances. This has been achieved through the strategic deployment of resources from multiple security agencies, operating in a coordinated manner under the auspices of the National Task Force agency. One of the strategies employed involves the procurement of numerous small boats, which are subsequently utilised for the purposes of patrolling, conducting reconnaissance, intercepting, and implementing blockades. These activities are undertaken to effectively facilitate the operational goals of detecting, deterring, denying, diverting, apprehending, and repatriating individuals involved in unauthorised activities. The inclusion of these boats has had a substantial impact on diminishing the proportion of unauthorised migrants and the potential complications that may ensue. During that period, the prevalence of such boats was widespread, thereby augmenting the level of confidence within the maritime community. However, following the conclusion of the pandemic, these boats subsequently resumed their conventional responsibilities, which were perceived to have minimal influence on maritime warfare.

RMN, which currently possesses multiple vessels of this nature, has further augmented the capabilities and expanded the role of these boats. This phenomenon is evident in the endeavour to enhance certain vessels with sophisticated weaponry systems featuring specialised configurations to attain strategic benefits. Nevertheless, the boat's participation and function in maritime warfare remain confined to conventional maritime activities, including Maritime Interdiction Operations, facilitating the enforcement of Sea Denial and Sea Control, and serving as platforms for landing and reconnaissance missions.

Taking inspiration from the strategic approach utilised by the Islamic Revolutionary Guard Corps of Iran, a notable method has been formulated to tackle the lack of warships while concurrently upholding authority and firepower. This innovative tactic involves the implementation of boat swamp attacks. The strategy involves the utilisation of cost-effective conventional boats that are equipped with lightweight weaponry. These boats are designed to be easily deployed and require minimal user intervention, as they possess a "plug and play" capability and operate on a "fire and forget" principle.

The boats are employed in a coordinated manner to execute group attacks on enemy warships. This particular strategy is widely regarded as being highly effective, and it is additionally characterised by its relatively low cost. Furthermore, these automated systems possess minimal radar signatures, rendering them challenging to detect. Additionally, their exceptional agility and high speed further enhance their tactical advantage in offensive operations. These vessels can also serve the purpose of safeguarding and enhancing the overall resilience of the primary naval vessel prior to engaging in offensive operations. The implementation of these tactics in battle simulations, as assessed by impartial military analysts, has proven effective in diminishing the combat capabilities of the United States Navy Battle Group, thereby impeding its ability to fulfil its operational responsibilities.

Hence, it is imperative for RMN to commence an examination of these strategies, considering factors such as the quantity of boats in their inventories, the diversity of models available, the scarcity of warships, and the relatively low operational expenses. In the preliminary phases, it is necessary to enhance the combat capabilities of each existing vessel by equipping them with armaments that can augment firepower, such as short-range missiles (SHORADS), an automatic grenade launcher, rocket-propelled grenades, a heavy machine gun sensor, radar, and communication systems.

The installation of this capability on such vessels is a relatively straightforward process and offers a cost-effective alternative to the costly procurement of warships. Typically, it is necessary for these vessels to be outfitted with an adequate array of weapon systems that surpass the limited range of self-defense weaponry found on warships, such as close-in weapon systems. This is crucial for safeguarding the crew's survival during a brief interval prior to initiating an offensive manoeuvre. Despite the potential loss of human resources and reduction in the number of boats, this approach remains a more cost-effective alternative compared to the loss of a high-cost, technologically advanced warship. Moreover, the substitution of vessels and their personnel can be accomplished within a relatively short span of a few months, in stark contrast to the construction and deployment of warships, which typically requires several years. The armaments installed on these vessels possess the capability to be employed for land-based defence purposes, thereby enhancing the security and operational readiness of naval bases and harbours where these boats are stationed.

Currently, it is imperative to initiate a novel approach or strategy. Further exploration is required to harness the full potential of existing boats in order to bolster maritime warfare. The execution of operations necessitates a dynamic and strategic approach, characterised by a resourceful and cunning mindset. Through this endeavour, it is conceivable that our vessels, which presently serve as a means of amplifying force, could potentially evolve into the forefront of military operations. 🔴



The Benefits of IoT Implementation in the Royal Malaysian Navy's Training Environment

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what is IoT, and what is its potential for training in THE ROYAL MALAYSIAN NAVY?

The Internet of Things (IoT) has taken the world by storm and is revolutionizing how we go about our daily lives. The Royal Malaysian Navy (RMN) has enormous potential to transform its personnel training process through immersive and interactive learning experiences. Through the IoT, physical objects and devices are linked to digital networks, allowing for collated data from multiple sources. This article examines how the IoT can be employed in naval training and the advantages it may bring. By utilizing this technology, more accurate and efficient training methods can be developed.

how can the IoT help improve the efficiency and safety of naval personnel?

IoT technology offers many benefits to RMN personnel, allowing them to train and operate safely and efficiently. The data analytics capability enables the detection of potential risks and dangers and provides current feedback on their performance. In this way, RMN can rest assured that they are fully prepared for any situation. Moreover, IoT can be leveraged to observe the surroundings for any indications that could endanger the safety or performance of RMN personnel. AI technology aids RMN personnel in being better equipped for operations and access to precise data for making decisions. Hence, it makes them more ready for any environment they may face.

exploring the potential of IoT-Based solutions for virtual training of RMN personnel

IoT-based solutions offer a unique opportunity to train RMN personnel in a realistic virtual environment. Naval personnel can further hone their skills and be better prepared for any on-ground scenario. The potential benefits of such virtual training are immense. With IoT-based solutions, users can practice and hone their skills from home. These technologies form virtual training opportunities that help people develop their skills quickly and accurately.

Furthermore, these platforms are equipped with feedback systems that give a thorough evaluation of performance. Virtual training platforms are an excellent asset for the Navy, making training more accessible and efficient. It also allows personnel to gain experience in a risk-free setting and will enable instructors to track progress. Moreover, these platforms ensure everyone is updated with the newest regulations and methods.

what are some specific examples of how the IoT is being used to train RMN personnel?

In this article, we'll be exploring some examples of how these technologies are being used to train members of the RMN. We will explore virtual reality and immersive scenarios, especially in military applications. These technologies have recently become popular, and their potential is exciting. The RMN should consider adopting intelligent technologies to completely transform the system for training its personnel. Doing so can improve efficiency and potentially open up new ways of teaching and learning in the military. The RMN has been utilizing emerging technologies such as the IoT, virtual reality and immersive scenarios to create a more enhanced and productive training environment for its sailors. These tools provide a more realistic and engaging experience than traditional methods. Virtual reality simulations and immersive scenarios can provide a much better training experience than before. IoT allows RMN personnel to prepare for deployments by simulating real-world environments in a secure and controlled atmosphere.

how can organizations overcome the challenges of introducing IoT technologies into their training programs?

Incorporating IoT technology into training initiatives can be a real challenge for organizations. Thus, it is essential to look out for potential issues, such as security threats, compatibility problems, and costs associated with the implementation. Organisations will need to devise effective strategies to overcome challenges to ensure the successful integration of IoT technologies into their training programs. In sectors such as military organizations, the difficulty of integrating IoT tech is managed by ensuring that it is securely implemented and abides by all regulations. Companies have been able to benefit from the use of IoT technology without having to incur any high costs by implementing cost-efficient solutions. If organizations follow these steps carefully, they can leverage the power of IoT and integrate it into their training regimes. This approach could result in increased productivity, efficiency and effectiveness.

The IoT has taken the world by storm and is revolutionizing how we go about our daily lives. The RMN has enormous potential to transform its personnel training process through immersive and interactive learning experiences. IoT technology benefits RMN personnel, allowing them to train and operate safely and efficiently. The data analytics capability enables the detection of potential risks and dangers and provides current feedback on their performance. IoT-based solutions offer a unique opportunity to train RMN personnel in a realistic virtual environment practically. The potential benefits of such virtual training are immense. The RMN should consider adopting intelligent technologies to completely transform the system for training its personnel. However, it is essential to look out for potential issues, such as security threats, compatibility problems, and costs associated with the implementation. Organisations will need to develop effective strategies to overcome any challenges experienced through the integration of IoT technology into their training environment. 🔄





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