

Edisi Ke 50/24

CAKAP TAKTIK

MARITIM

PUSTAKMAR

“Strategy Requires Thought,
Tactics Requires Observation.”

-Max Euwe-





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Prakata Pegawai Memerintah

Selamat datang dalam Majalah Cakap Taktik Maritim Edisi ke-50 tahun 2024. Puji dan syukur saya panjatkan kehadiran Tuhan Yang Maha Esa yang telah melimpahkan Rahmat serta hidayahnya sehingga majalah ini dapat disiapkan sepertimana yang telah dirancang pada tahun ini. Terlebih dahulu saya ingin merakamkan ucapan setinggi-tinggi penghargaan kepada pihak pengurusan tertinggi TLDM kerana telah memberi kepercayaan kepada saya bagi menerajui PUSTAKMAR yang kini dikenali sebagai Pusat Peperangan dan Doktrin TLDM (PUSPED). Saya selaku penaung kepada majalah ini berbesar hati untuk mengkongsikan kepada semua pembaca kerana edisi kali ini tidak hanya menandai perjalanan panjang majalah ini dalam membahas strategi dan inovasi di dunia maritim, tetapi juga merupakan momentum untuk merenungkan pencapaian dan tantangan yang telah kita hadapi.



Dalam edisi kali ini, kami masih lagi mengekalkan kerjasama bersama pihak Universiti Teknologi MARA (UiTM) dalam menentukan konsep dan pengstrukturkan penulisan dapat memudahkan para pembaca memahami artikel berkenaan. Perkara ini penting bagi memastikan ilmu yang dikongsikan dapat disampaikan kepada seluruh lapisan *The Navy People* khususnya dan seluruh pembaca amnya.

Edisi kali jni masih mengekalkan konsep dwibahasa sebagai mana edisi-edisi yang lepas. Selain itu, edisi kali ini turut menghadirkan berbagai artikel yang menyorot evolusi taktik maritim dalam menghadapi dinamika global yang terus berubah. Dari strategi keamanan laut hingga teknologi terbaru yang mengubah cara kita beroperasi di lautan. Saya berharap artikel-artikel ini tidak hanya memberikan wawasan mendalam, tetapi juga menginspirasi pembaca dalam mengeksplorasi potensi dan peluang di masa depan.

Akhir kata, terima kasih kepada semua pembaca, penulis, dan penyumbang idea yang telah mendukung perjalanan majalah. Mari kita terus mengembangkan pemahaman kita demi keamanan, keberlanjutan, dan kemajuan bersama.

Selamat membaca!

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PRINCIPLE OF WAR

The following ten principle have long been established as the Principle of War used by MAF. These principle have utility across the spectrum of conflict and across all levels of conflict. They maintain relevance in spite of dramatic changes over time in the methods, techniques and weapons of war. All of these principles are of fundamental importance to achieving success in war. Most also apply to military support operations. But in applying these principles to specific situations, it may be necessary to balance the application of one principle against the application of another. The principle should not be viewed as merely a 'check list' for success. The Principle of war which guide the planning and conduct of all operations by MAF are;

Selection and maintenance of the aim will strongly influence the parameters of military action and the means, the political, timing and others constraints. Clear articulation of the aim provides a basis for checking the consistency of military action at each level of warfare and of plans for military action, with the overarching aim.



Concentration of force, along with the application of other principle of war, can enable a seemingly inferior force to defeat a potentially superior adversary. Success in combat depends on the concentration of superior force.

Cooperation within a service, between the service, between the MAF and the Malaysian community between the MAF and partners is vital for success in war. Only in this way can the resources and energies of each be harnessed so as to achieve victory.



Economy of effort is a corollary of the principle of concentration of force; the more effective a force is in economising its allocation of resource in one place, the more resource are thereby released to permit concentration of force elsewhere.

Security may be achieved, for example, by such measure as sea denial, defence of vulnerable bases and entry point, protection of vital infrastructure, protection of information and communication systems, holding adequate reserves of forces, gaining air superiority, or guarding flanks to achieve freedom of action.



Offensive action is vital if forces and commanders are to exploit opportunities to capitalise on enemy weaknesses and to seize and hold the initiative in combat. Offensive action contributes to the morale of one's own forces and, if vigorously pursued, can shatter the cohesion of an enemy.

Surprise is a most powerful influence in operation. Surprise can wrest the initiative from the enemy, help reduce casualties from one's own offensive action, sow confusion, dismay and fear in the enemy, paralysed, at least temporarily, the enemy's decision-making processes, degrade his will and interrupt the 'rhythm' of the enemy's offensive action.



Flexibility in operation is the capacity to adapt plans to take account of unforeseen circumstances, so as to ensure success in the face of friction, unexpected resistance or setbacks or unexpected opportunities.

Administration includes all administrative arrangements necessary to put into effect strategies and operational plans. It includes, but is not limited to logistics and personnel aspects for the efficient support of a force.



Morale is an essential element of combat power. High morale brings courage, energy, cohesive, endurance, steadfastness, determination and a bold, offensive spirit. Morale of the fighting force is an embodiment of the national will to resist aggression and coercion.



"Preparedness and vigilance are the keys to ensuring national security."

General Tan Sri Dato' Sri Abdul Aziz Zainal

"A soldier's duty is to serve the country with loyalty, honor, and integrity."

General Tan Sri Dato' Sri Haji Ismail Omar

"The true measure of a military's strength is not just its weapons but the spirit and resolve of its soldiers."

General Tan Sri Dato' Seri Panglima Haji Mohd Hashim Hussein

"Every soldier plays a crucial role in the defense of our nation, and each must be ready to rise to the occasion."

General Tan Sri Raja Mohamed Affandi Raja Mohamed Noor

"In the face of adversity, it is the unwavering courage and determination of our armed forces that ensures our survival."

General Tan Sri Dato' Sri Dr. Mohd Zahidi Zainuddin

"Discipline, honor, and sacrifice are the bedrock of a soldier's life."

General Tan Sri Dato' Sri Mohd Ghazali Che Mat

"The peace and stability of our country depend on the vigilance and readiness of our armed forces."

General Tan Sri Dato' Sri Hj. Ismail Khan



"The training is not alone but its must come as composite manufactured."

Rear Admiral Dato Pahlawan Abd Halim bin Hj Shaari

"Leadership is not about being in charge. It is about taking care of those in your charge."

General Tan Sri Dato' Seri Haji Zulkifli Zainal Abidin

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QUOTES
IN OUR
THOUGHTS

"The navy must always be prepared to face any challenge in safeguarding the sovereignty of our waters."

Admiral Tan Sri Abdul Aziz bin Hj Jaafar's

"Teamwork and dedication are crucial for the success of our missions and the strength of our navy."

Admiral Tan Sri Abdul Aziz bin Hj Jaafar's

"Our strength lies in our unity and our readiness to defend the nation at all costs."

General Tan Sri Dato' Sri Mohd Zahidi Zainuddin

"Modernization and innovation are key to maintaining a capable and responsive naval force."

Admiral Tan Sri Abdul Aziz bin Hj Jaafar's

STRIVE FOR **VICTORY**



Defence and Preparedness
of the Country's Maritime
Assets

WOGOS IN MARITIME SECURITY: MALAYSIA MADANI CONCEPT

By Cdr Ts Dr Muhamad Zafran bin Whab@Hassan Basari RMN
- Markas Pemerintahan Latihan dan Doktrin

Introduction

The WOGOS (Whole of Government/Society Effort) in maritime security refers to a comprehensive approach that involves the collaboration and coordination of various government agencies, as well as the participation of society, to ensure the safety and security of maritime activities. It emphasises the importance of a collective effort in addressing maritime security challenges. The article aims to explore the application of the WOGOS approach in the context of Malaysia's maritime security efforts. As an archipelagic nation with a strategic maritime position, Malaysia faces diverse and complex security challenges in its territorial waters and exclusive economic zone. To address these challenges comprehensively, the WOGOS approach has emerged as a significant framework for fostering collaboration, resource optimisation, and community engagement in maritime security governance.

This article will delve into the significance of maritime security for Malaysia, considering its strategic geographical position and the vital role of maritime activities in the nation's economy. It will then highlight

the relevance of the WOGOS approach in addressing Malaysia's multifaceted maritime security concerns. By examining the principles and practical applications of WOGOS, this article aims to provide valuable insights into how this approach can effectively enhance Malaysia's maritime security efforts and contribute to regional stability.

Significance of Maritime Security for Malaysia

The Malaysian Madani concept, on the other hand, focuses on good governance, sustainable development, and racial harmony in Malaysia. It aims to create a prosperous, fair nation and rejects any form of cruelty towards any individual or race. The concept encompasses the interests of all races and religions, promoting inclusivity and unity in Malaysia. The importance of maritime security for Malaysia is multifaceted and crucial for various aspects of the nation's well-being and prosperity. There is an expanded overview that emphasises the significance of maritime security for Malaysia:

a

Piracy and Armed Robbery. Malaysia's coastal and maritime regions are susceptible to piracy and armed robbery, particularly in the Malacca Strait and the South China Sea. These criminal activities threaten maritime trade, commercial shipping, and the safety of seafarers, necessitating robust counter-piracy efforts to ensure safe and secure passage through these critical sea lanes.

b

Illegal, Unreported, and Unregulated (IUU) Fishing. The prevalence of IUU fishing activities in Malaysia's waters poses significant challenges to the sustainability of marine resources and the livelihoods of coastal communities. Addressing IUU fishing requires effective surveillance, law enforcement, and international cooperation to combat unauthorised fishing activities and protect the marine ecosystem from exploitation.

c

Transnational Crime and Smuggling. Malaysia's maritime domain is vulnerable to transnational crime, including the smuggling of contraband, illicit goods, and human trafficking. These illegal activities undermine national security, border control, and the integrity of maritime territories, necessitating coordinated efforts to combat organised crime networks and secure maritime borders.

d

Protection of Key Sea Lanes. As a critical transit hub for international shipping, Malaysia's strategic sea lanes, including the Malacca Strait, are vital for global maritime trade. Ensuring the security and integrity of these key sea lanes is essential for sustaining uninterrupted maritime commerce and preventing disruptions that could have far-reaching economic repercussions regionally and globally.

e

Environmental Protection and Maritime Pollution. The preservation of Malaysia's marine environment is challenged by marine pollution, illegal dumping, and environmental degradation. Safeguarding marine ecosystems and coastal areas from pollution and ecological threats requires proactive measures to enforce environmental regulations, mitigate pollution risks, and promote sustainable maritime practices.

Addressing these diverse maritime security challenges demands a multifaceted approach, encompassing maritime surveillance, law enforcement, international cooperation, community engagement, and policy initiatives to fortify Malaysia's maritime security framework. Furthermore, this overview provides insight into Malaysia's multifaceted maritime security challenges, emphasising the need for comprehensive strategies to mitigate piracy, illegal fishing, transnational crime, and environmental risks in its maritime domain. Therefore, there are a few key points that relate to the importance of Maritime Security for Malaysia needed as below:

a. Strategic Geographical Position. Malaysia's strategic geographical position as a maritime nation with extensive coastlines and control over vital sea lanes places it at the crossroads of international trade and maritime activities. The nation's proximity to major shipping routes and key waterways underscores the critical nature of safeguarding its maritime domain against security threats and disruptions.

b. Economic Relevance and Trade Significance. Given the nation's heavy reliance on maritime trade, maritime security is pivotal for Malaysia's economic vitality. The Malaysian economy heavily depends on the unimpeded flow of goods through its ports and waterways. Ensuring secure maritime passages is essential for sustaining trade relations, facilitating imports and exports, and maintaining the efficiency of maritime logistics, which are integral to economic growth and stability.

c. Safeguarding National Interests. The maritime domain holds immense strategic and resource value for Malaysia, encompassing fisheries, energy resources, marine biodiversity, and territorial integrity. Protecting these national interests requires effective maritime security measures to deter illegal activities such as piracy, smuggling, fishing, and unauthorised resource extraction. Additionally, safeguarding maritime borders and sovereignty is essential for upholding Malaysia's territorial integrity and national security.

d. Environmental Well-being. Malaysia's marine environment, including its coastal areas and marine ecosystems, is critical in supporting biodiversity, sustaining fisheries, and preserving natural resources. Maritime security efforts are indispensable in combating environmental threats such as marine pollution, illegal dumping, and unauthorised activities that endanger the ecological balance. Preserving environmental well-being through maritime security measures is vital for Malaysia's maritime territories' sustainable development and environmental resilience.

Hence, the significance of maritime security for Malaysia extends beyond economic considerations to encompass the protection of national interests, environmental sustainability, and the overall stability of the nation. Effectively addressing maritime security concerns is imperative for safeguarding Malaysia's strategic position, economic prosperity, sovereignty, and environmental well-being.

Overview of the WOGOS Approach

The WOGOS framework is a comprehensive and integrated strategy to address complex maritime security challenges by fostering collaboration, resource optimisation, community engagement, information sharing, and adaptive response capabilities. The WOGOS framework emphasises the involvement of all relevant government agencies and departments in addressing maritime security challenges. It coordinates efforts across various governmental entities to ensure a cohesive and unified response to maritime threats. In addition to government agencies, the WOGOS approach recognises the importance of engaging non-governmental stakeholders, including civil society organisations, private sector entities, local communities, and international partners. This inclusive approach seeks to harness diverse societal actors' collective capabilities and expertise in enhancing maritime security.

The framework emphasises the efficient and effective use of resources, including financial, human, and technological assets, to maximise the impact of maritime security initiatives. It promotes resource sharing, coordination, and prioritisation to address security challenges sustainably. Furthermore, recognising the vital role of coastal communities and local populations in maritime security, the WOGOS framework advocates for community empowerment, awareness-raising, and collaboration. Engaging with communities fosters a sense of ownership, encourages information sharing, and facilitates reporting suspicious activities to enhance maritime safety. Hence, information sharing is a cornerstone of the WOGOS framework, enabling seamless communication and coordination among relevant stakeholders. Timely exchange of intelligence, data, and best practices enhances situational awareness and supports proactive decision-making in response to maritime security challenges.

The WOGOS approach emphasises flexibility, adaptability, and agility in responding to evolving maritime security threats. It promotes the development of responsive strategies, contingency plans, and adaptive frameworks to address emerging challenges and mitigate risks effectively. As discussed above, there is a component of the WOGOS Framework:

a Holistic Collaboration. WOGOS fosters collaboration among government agencies, international partners, civil society, and private sector entities to create a unified front against maritime security threats.

b Resource Optimisation. The framework promotes the efficient allocation and utilisation of resources, including financial, human, and technological assets, to enhance the effectiveness of maritime security initiatives.

c Community Engagement. They engage coastal communities and local populations in maritime security efforts through awareness programs, capacity building, and community policing initiatives.

d Information Sharing. Facilitating seamless exchange of information, intelligence, and best practices among relevant stakeholders to enhance situational awareness and support informed decision-making.

d Adaptive Response Capabilities. Developing flexible, adaptable, and responsive strategies to address evolving maritime security challenges and ensure a dynamic and effective response.

The WOGOS framework represents a holistic, inclusive, and adaptive approach to maritime security, emphasising the collaborative efforts of government and non-governmental entities, resource optimisation, community engagement, information sharing, and adaptive response capabilities to effectively address multifaceted maritime security challenges. This comprehensive explanation outlines the core principles and components of the WOGOS framework, elucidating its integrated and collaborative approach to enhancing maritime security through holistic engagement, resource optimisation, community involvement, information sharing, and adaptive response capabilities.

Significance of Maritime Security for Malaysia

The significance of maritime security for Malaysia is underscored by its strategic geographical position and the vital role of maritime activities in the nation's economy. The WOGOS approach's applicability to Malaysia's complex maritime security concerns emphasises the importance of solving these challenges holistically and collaboratively.

Geopolitical and Strategic Importance.

Malaysia's strategic location along major international shipping routes, including the Strait of Malacca, underscores its geopolitical significance in global maritime trade and security. Malaysia's maritime boundaries encompass critical sea lanes, making it crucial to ensure the free and secure flow of goods, energy resources, and commercial traffic.

Economic Vitality.

Maritime activities, including shipping, fishing, offshore oil and gas exploration, and port operations, are integral to Malaysia's economy, contributing significantly to trade, employment, and national revenue.

Ensuring maritime security is essential for safeguarding these economic interests, promoting sustainable development, and mitigating potential disruptions to maritime commerce.

Resource Management and Environmental Protection.

Malaysia's maritime security efforts extend to safeguarding its marine resources, protecting the marine environment, and addressing transnational challenges such as illegal fishing, pollution, and maritime hazards.

National Defense and Sovereignty.

Securing Malaysia's maritime domain is vital for protecting national sovereignty and territorial integrity and defending against non-traditional security threats, including piracy, maritime terrorism, and illicit activities.

By highlighting the significance of maritime security for Malaysia and the relevance of the WOGOS approach, policymakers, maritime security practitioners, and scholars can gain insights into the multifaceted nature of safeguarding Malaysia's maritime interests and the collaborative strategies needed to address these critical concerns. Furthermore, the WOGOS model supports a comprehensive approach to maritime governance, encompassing legal frameworks, policy coordination, and institutional cooperation. This ensures that maritime security efforts are embedded within a broader governance, regulation, and compliance framework. The WOGOS approach is highly relevant in addressing Malaysia's complex maritime security concerns by fostering collaboration, optimising resources, engaging communities, promoting information sharing, and facilitating adaptive responses to emerging threats. This integrated approach aligns with the multifaceted nature of maritime security challenges, making it a valuable strategy for effectively safeguarding Malaysia's maritime interests. Some of the examples of successful maritime security initiatives and collaborative efforts in Malaysia that align with the principles of the WOGOS approach:

a. Malacca Straits Patrol (MSP)

The Malacca Straits Patrol is a collaborative maritime security initiative involving Indonesia, Malaysia, Singapore, and Thailand. This cooperative effort aims to enhance maritime security, combat piracy, and ensure safe passage through the strategically vital Malacca Straits. The MSP exemplifies the collaborative and information-sharing aspects of the WOGOS framework, involving multiple governments and agencies in addressing shared maritime security concerns. Collaborative initiatives in the region, like the MSP, have significantly reduced piracy incidents in the Malacca Straits. This underscores the positive impact of coordinated maritime security efforts in deterring criminal activities and enhancing the safety of maritime trade routes.

b. Maritime Enforcement Agency:

Malaysia's Maritime Enforcement Agency, such as RMN, MMEA, and Marine Police, plays a crucial role in safeguarding the country's maritime interests and combating maritime threats. The coordination efforts encompass law enforcement, search and rescue operations, and environmental protection, aligning with the integrated and adaptive response principles of the WOGOS framework. Under the Community Engagement and Stakeholder Participation umbrella, Malaysia's engagement with coastal communities, industry stakeholders, and international partners reflects the whole-of-society approach advocated by the WOGOS framework. These collaborative endeavours have fostered a shared responsibility for maritime security and contributed to a more comprehensive and inclusive approach to safeguarding Malaysia's maritime interests.

c. Joint Maritime Patrols and Exercises.

The Malacca Straits Patrol is a collaborative maritime security initiative involving Indonesia, Malaysia, Singapore, and Thailand. This cooperative effort aims to enhance maritime security, combat piracy, and ensure safe passage through the strategically vital Malacca Straits. The MSP exemplifies the collaborative and information-sharing aspects of the WOGOS framework, involving multiple governments and agencies in addressing shared maritime security concerns. Collaborative initiatives in the region, like the MSP, have significantly reduced piracy incidents in the Malacca Straits. This underscores the positive impact of coordinated maritime security efforts in deterring criminal activities and enhancing the safety of maritime trade routes.

In conclusion, while challenges exist in implementing the WOGOS approach in Malaysia's maritime security context, there are several opportunities for further enhancement. Addressing practical considerations, fostering inter-agency coordination, leveraging technology, and strengthening partnerships can contribute to the continued improvement and effectiveness of the WOGOS framework in safeguarding Malaysia's maritime interests and promoting sustainable security measures. 📌



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Mohon mana-mana
Produk Pembiayaan
di Koperasi Tentera



Langkah 2

Pembiayaan yang
diluluskan secara
automatik layak
untuk cabutan



Langkah 3

Pemenang cabutan
akan dihubungi
oleh pihak KT



Penyertaan dibuka

1 Januari 2024 - 31 Disember 2024

ANZAC DAY IN KUALA LUMPUR 2024

By Lt Cdr James Tew RAN - PUSTAKMAR



Members salute during the last post

Anzac Day holds a special place in the heart of Australian people. The first Anzac Day was held on the 25th of April 1916 to commemorate the sacrifice by the Australian and New Zealand Army personnel who lost their lives in Gallipoli in 1915. The spirit and determination displayed during the campaign is an integral part of the national identity for both the Australian and New Zealand armed forces.

The objective for the allied forces was to capture Constantinople, however upon landing at Gallipoli, the Australian and New Zealand Army Corp (ANZAC) met fierce resistance. This campaign lasted for eight months and by the end of 1915, Allied forces evacuated with both sides having sustained heavy casualties. The Allied death toll totalled over 56,000 men with 8,709 from Australia and 2,721 from New Zealand.

This fighting spirit, developed during the harsh realities of World War I, continued to be on display when Australian forces fought alongside our Malaysian brothers and sisters throughout World War II.

The Anzac spirit was again called upon when Australian soldiers stood arm in arm with Malaysians to repel the Japanese invasion. There are incredible amounts of history between our two great nations and stories of sacrifice and dedication to one another. This relationship has continued to grow and strengthen throughout the years.

However, the Anzac spirit has developed into much more than just war time sacrifice. Now, if you were to ask Australian service personnel what Anzac Day means to them, you would receive many varied answers.

From a day to remember our colleagues who've made the ultimate sacrifice to a chance to spend time with our friends. For me personally, it's a day to remember why we serve our nation and check in with our friends to make sure we're all okay.

Anzac Day is typically commemorated with a dawn service (the time of the Allied landing in 1915) followed by a parade through towns in Australia. However, throughout the world,



Kept Kamal, CO PUSTAKMAR and LCDR James Tew, RAN at Tugu Negara

For me personally, it's a day to remember why we serve our nation and check in with our friends to make sure we're all okay.



The sun rises during the ceremony



Laying of the wreaths. MAF was represented by BRIGJEN Fazillah

wherever you find Australian and New Zealand service men and women, you'll find an Anzac Day ceremony. Some ceremonies are large, like the one in Canberra where over 32,000 people attended even when the temperature was just two degrees. Some commemorations are more personal and smaller.

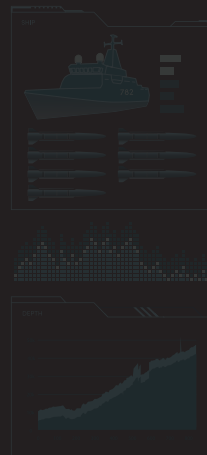
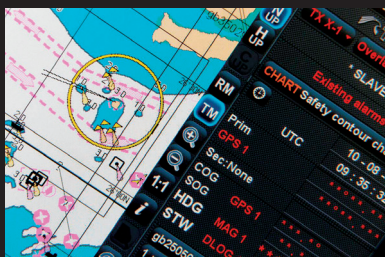
This year, to commemorate the significance, a dawn service was held at Tugu Negara and was well attended by Australian, New Zealand and Malaysian military and civilian personnel. Commencing at 0615, the service started with the mounting of the catafalque party who stood watch

over the memorial. With speeches from High Commissioners from Australia and New Zealand, as well as the Turkish Ambassador to Malaysia, those who attended were reminded of the sacrifice and courage displayed 109 years ago.

It was an honour to host Kept Kamal to his first Anzac Day service, one that I hope I have the honour to share with many more of my Malaysian brothers and sisters during my time in Malaysia. Malaysia and Australia have such a rich history and working alongside such professional Officers and Sailors of the Royal Malaysian Navy has been a privilege I'll never forget. 🇲🇾

The Australian High Commissioner to Malaysia reads a speech to attendees





APPLICATION OF TECHNOLOGY SYSTEMS BETWEEN THE MILITARY AND SAFETY ASPECTS

By Sub Lt Muhammad Firdaus bin Mohd Fouzi RMN - KA TUN AZIZAN

The application of technology is a determining factor in understanding the use of technology by end users in many government organizations. The use of technology in government organizations in Malaysia is significant, especially in law enforcement. This investigation examines the determining factors by end users to accept the use of technology in government organizations in Malaysia. More specifically, the purpose of this study is to determine the use of technology systems between the military and safety aspects. Since the existence of the Internet, the world is constantly evolving and improving with the evolution of technology. As most organizations increasingly migrate to computer systems and networks, cyber threats and crimes are increasing along with the growth of computerized networks. Thus, the need for network security becomes important and essential in today's world to ensure that the network is protected and secure from any cyber threats or attacks.

Network security has become a concern due to valuable information can be easily obtained through the Internet. Concerns about security date

back to the 1930s, when several major events highlighted the importance of network security. Network security has always been closely linked to identification, authentication and authorization. The definition of network security is to consider secured network integrity as a whole and not just focus on endpoint security. In this article, the researcher proposed a framework as a resource for organizations, particularly the Royal Malaysian Navy, to characterize the level of protection appropriate to their operational domain and network design.

The rapidly developing technology inside The Royal Malaysian Navy (RMN) itself needs to be constantly reviewed to ensure the strength of its fleet to remain relevant in defending the sovereignty of the country's waters. RMN in a statement issued nowadays, given an increasingly challenging geostrategic landscape, the Navy plays a very important role in the context of maritime security and defence.

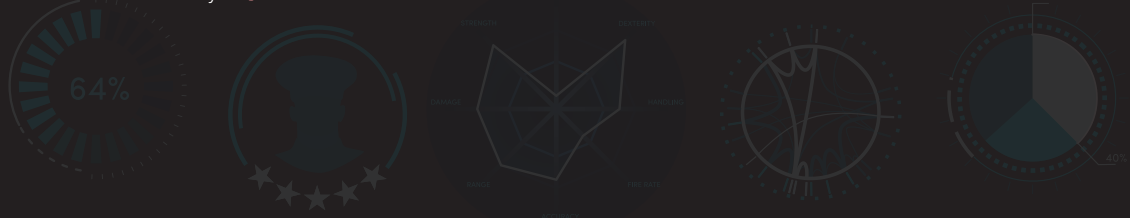
RMPNet is a project to upgrade and migrate the conventional analog communication system of

The success and well-being of Malaysia is the result of close understanding and cooperation between the government and the security forces.

the Royal Malaysian Police (RMP) to a digital tactical communication system that can guarantee information security and increase the effectiveness of the RMP. However, the device also has been used and well-known among other military units such as the Royal Armed Forces.

RMPNet was introduced at the beginning of 2020 during the establishment of National Task Force (NTF) including the coordination of many defence and security agencies such as the Royal Armed Forces, Joint Armed Forces, Royal Malaysian Police, Malaysian Maritime Enforcement Agency (MMEA) and many others during Op Benteng Laut.

The success and well-being of Malaysia as a nation is the result of close understanding and cooperation between the government and the security forces. Integrated communication is essential to deal with various emergency situations. Collaboration with relevant parties through the concept of national blue ocean strategy and smart partnerships seems to be yielding encouraging results. Therefore, by taking advantage of the communication relationship between the security forces, the RMP with the RMPNet communication system and GIRN (Government Integrated Radio Network) have met a coherent objectives under one roof specifically for patrolling at the Malaysian Territorial waters. Sapura, as a private company, works with all government agencies directly involved in the GIRN communication system and is entrusted with the development of the new system launched nowadays. 📡



BALANCING MODERN AND CONVENTIONAL CONCEPT IN THE ROYAL MALAYSIAN NAVY'S MINE COUNTERMEASURES CAPABILITY

By Cdr Lim Kit Tat RMN
- Mk Selam dan Peperangan Periuik Api

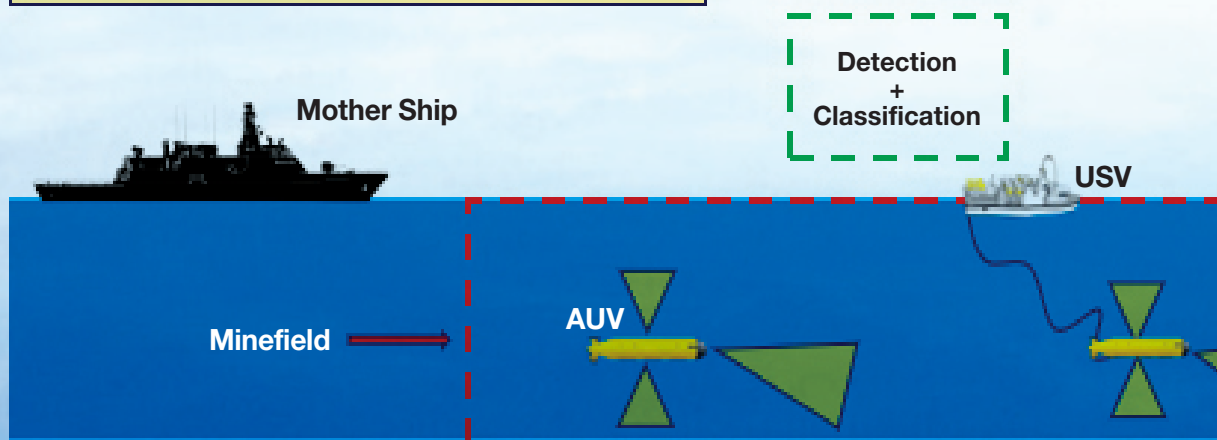
In the vast expanse of maritime security, the Royal Malaysian Navy (RMN) stands as a bastion of defence, tasked with safeguarding Malaysia's territorial waters and ensuring the safe passage of ships. As the RMN steers its course towards the future of Mine Countermeasures (MCM) capabilities, it confronts a critical decision: whether to embrace the allure of modern technology or adhere steadfastly to proven conventional methods. This article will delve into the nuanced considerations surrounding this choice, emphasizing the advantages of maintaining a focus on Conventional MCM method capabilities while acknowledging the allure and challenges of Modern MCM, or the Stand-Off concept capability.

The Promise and Perils of Modernization in MCM

The modern era has witnessed a global surge in the adoption of Modern MCM methods, driven by the promise of cutting-edge technology. Nations such as the United States of America, the United Kingdom, Belgium, the Netherlands, South Korea, and Japan have invested heavily in modernizing their MCM capabilities, enticed by the allure of Unmanned Surface Vehicle (USV), Autonomous Underwater vehicles (AUVs), sophisticated and robotics, including the MCM modular system for the Stand-off concept, where a dedicated MCM Mothership or any Vessel of Opportunity (VOO) other than the MCMV to conduct MCM operations outside the minefields. Amidst the fervor for technological progress, cautionary stories warn of the complexities and uncertainties of modernization.

Modern MCM Stand-Off Method Concept

Modern MCM: Stand-Of Method



Defining the Operation Concept for Modern MCM Method

Deeper complexities arise regarding the interactions of USVs and AUVs with others. Determining if they are considered weapons or part of a weapons system is essential. In asymmetric maritime warfare, such as in the Gulf, their vulnerability to emerging threats is unclear, where manned platforms were tested for self-defence against swarm attacks in July 2021 during the Allied MCM Exercise in the Gulf. However, it remains uncertain if uncrewed assets can be adequately defended from sabotage, drone attacks, or removal by adversaries.

Lessons Learned from Global Navies: Challenges in Modernization

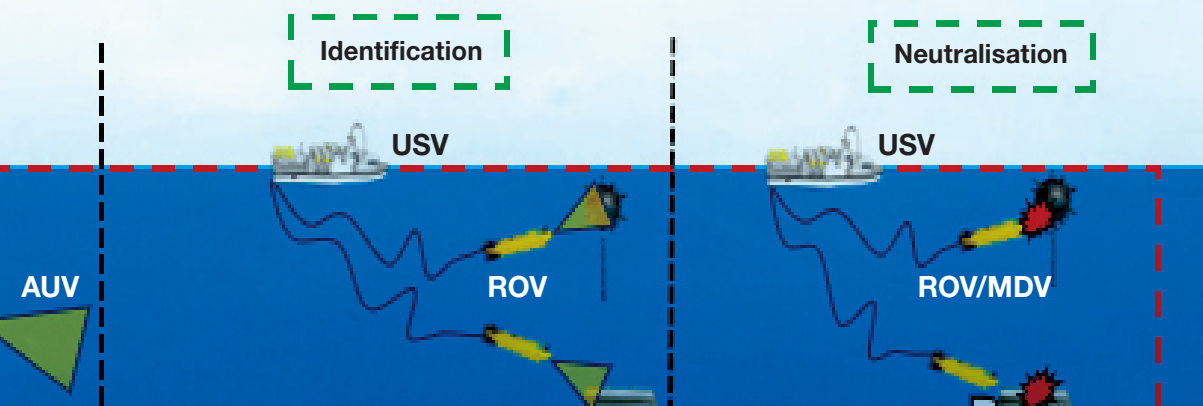
Consider the United States of America, a trailblazer in naval innovation, which encountered substantial hurdles within its Littoral Combat Ship (LCS) program. Designed to incorporate modular MCM mission packages, the LCS program stumbled over cost overruns, technical glitches, and delays, casting a shadow over the envisioned efficiency of modern MCM systems. Likewise, the United Kingdom's experience with the Type 45 destroyer revealed challenges in integrating modern MCM capabilities into

existing naval platforms, underscoring the importance of operational pragmatism amidst technological aspirations.

The Indispensability of Conventional MCM Method

Beyond the well-documented tribulations of prominent naval powers, other nations offer cautionary tales of the pitfalls of modernization. For instance, Türkiye serves as the maritime gateway linking the Black Sea to the Aegean Sea through the narrow and strategically significant Çanakkale (Dardanelles) Strait. This passage not only safeguards Turkey's economic interests but also serves as the entry point to the Black Sea for countries like Bulgaria, Romania, Ukraine, Georgia, Moldova, and Russia. Effective mine warfare capabilities are essential to ensure safe passage through key sea lanes, protect maritime borders, and defend offshore assets in the Eastern Mediterranean, contributing to Türkiye's maritime security and stability while also impacting regional dynamics. Moreover, the Turkish Navy recent collaborative effort with Bulgaria and Romania to protect Black Sea shipping from sea mine threats during Russia's attack against Ukraine underscores the need for reliable Conventional MCM assets over potentially less interoperable Modern MCM assets.

To navigate maritime security complexities, the RMN must remain committed to conventional MCM capabilities, drawing inspiration from proven methods.





Dardanelles Strait as Maritime Gateway Linking The Black Sea

Similarly, the Belgian-Netherlands Navy's pursuit of a modular MCM concept faced challenges in technical integration and interoperability, highlighting the complexities of integrating disparate systems.

Furthermore, the Indonesian Navy and the Republic of Singapore Navy, while investing in modern MCM capabilities, have remained cognizant of the indispensability of conventional methods in certain operational scenarios. This acknowledgement underscores a crucial truth while modernization holds promise, the bedrock of conventional MCM capabilities remains indispensable in navigating the unpredictable waters of maritime security.

This passage not only safeguards Turkey's economic interests **but also serves as the entry point to the Black Sea for countries like Bulgaria, Romania, Ukraine, Georgia, Moldova, and Russia.**

Strategic Implications and Diplomatic Significance of MCM Capabilities

Conventional MCM methods, rooted in manual labor and traditional Mine Hunting, Mine Sweeping and Mine Neutralization techniques, offer a reservoir of reliability and cost-effectiveness. Nations such as Russia, China, and various European countries continue to rely on these proven techniques, recognizing their adaptability to diverse operational environments and scenarios. NATO allies are taking a more pragmatic approach to future mine countermeasures. It appears that the RN, is currently putting all their eggs into the autonomous basket, while the Netherlands, Belgium, Norway, and Italy, all of whom have an excellent MCM pedigree, are retaining manned platforms from which autonomous systems may be operated. The RN's pioneering of autonomous Mine Warfare is to be welcomed, but "taking the sailor out of the minefield" entirely is perhaps just too ambitious. A more balanced approach is required over a much longer transition period. The ambition to minimize personnel exposure to risk is well-founded, but there will always be operational and tactical reasons that will require ships to get up close and personal with the mine threat.

Charting a Course for the RMN: Embracing Balance in MCM Strategy

Conventional MCM methods offer tangible advantages, including greater visibility and presence in maritime environments, emergency tasking capabilities, and support for patrol and constabulary duties. MCMVs not only serve as vessels of defense but also as vessels of diplomacy, engaging with local communities and bolstering defense diplomacy through port visits and

engagement initiatives. Additionally, they play a pivotal role in leadership and professional training for naval personnel, serving as training grounds for junior officers and providing invaluable experience in operations room management, ship handling, and warfare tactics, thereby instilling the resilience and adaptability necessary for success in maritime security.

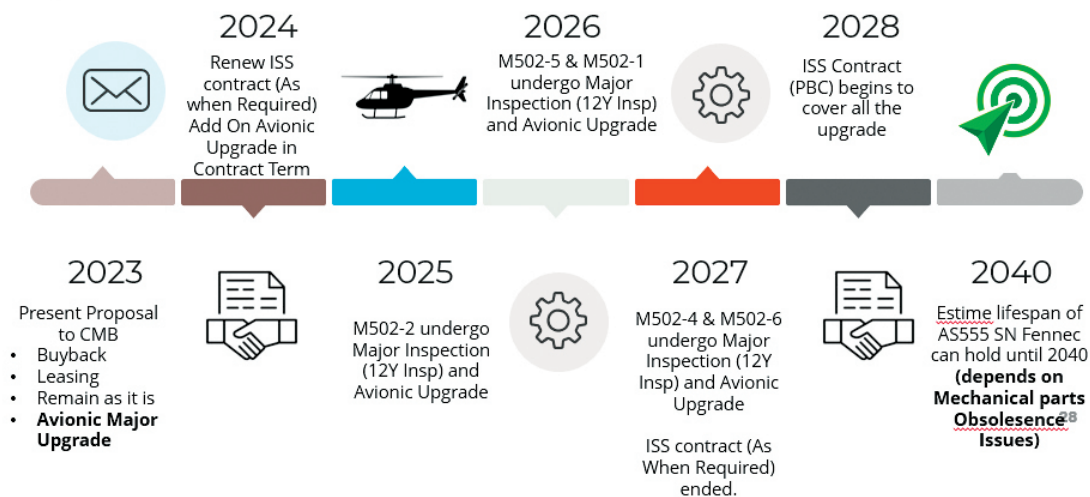
While modern technology promises efficiency and innovation, the journey to modernization is filled with uncertainties and challenges. Lessons from prominent naval powers and the resilience of Conventional MCM methods provide valuable insights for the RMN. Adopting a balanced approach to MCM capabilities, the RMN shall prioritize preserving and enhancing Conventional MCM methods while cautiously exploring modernization opportunities. By investing in advanced ROVs and incremental upgrades, the RMN can improve its MCM capabilities while retaining the reliability of Conventional MCM methods. Furthermore, the RMN must understand the broader strategic implications of its MCM capabilities. Conventional MCM methods not only defend but also contribute to diplomacy, engaging regional partners, and enhancing Malaysia's global maritime standing. To navigate maritime security complexities, the RMN must remain committed to conventional MCM capabilities, drawing inspiration from proven methods.

As the RMN prepares for future challenges, it must learn from history and embrace a balanced approach that values both the resilience of Conventional MCM methods and strategic modernization. This ensures the safety of Malaysia's waters for generations, guided by the beacon of Conventional MCM capabilities, anchoring the RMN in strength, resilience, and unwavering commitment to duty. 🚢

Helikopter AS 555SN FENNEC telah dibina sepenuhnya oleh Eurocopter Perancis. Helikopter Eurocopter yang pertama telah diterima pada 30 Mac 2004 dan pesawat seterusnya dihantar secara berperingkat sebelum pesawat terakhir diserahkan pada April 2004. Kerja-kerja pemasangan akhir telah dilakukan di Eurocopter, Subang sebelum 6 buah helikopter yang diterima ditugaskan ke Skuadron 502. Tahun ini, helikopter Eurocopter ini telah mencecah usia 20 tahun dan hala tuju yang dirancang adalah seperti berikut:

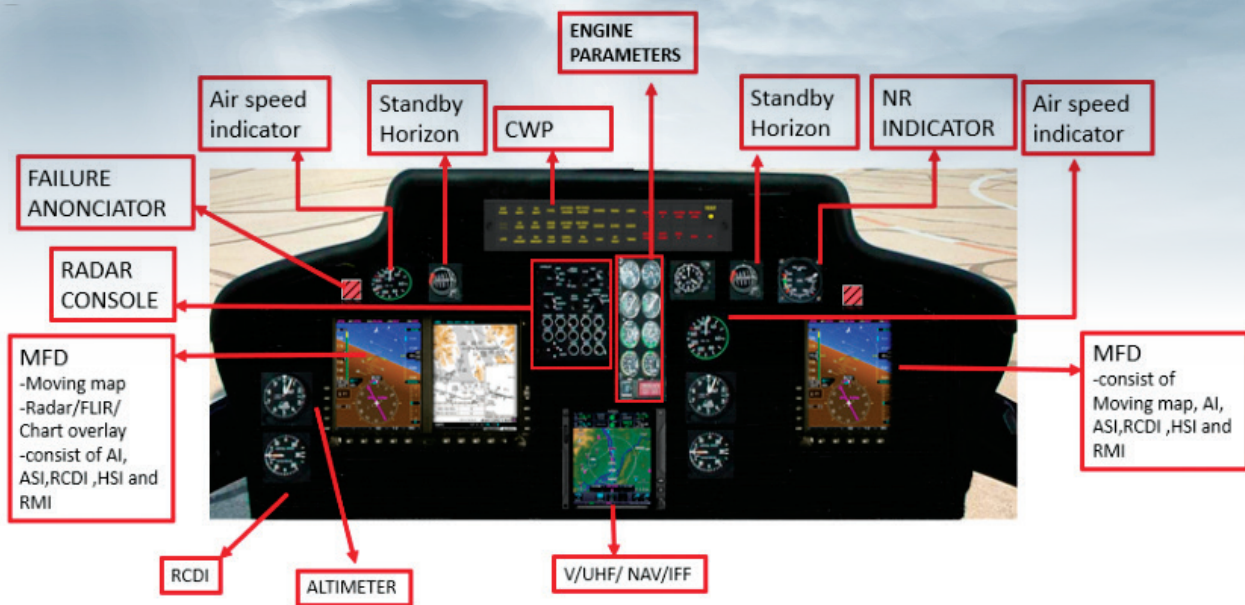
PENGUNAAN IPAD DALAM PENERBANGAN

By Lt Muhammad Faris bin Rusli TLDM - SKN 502



Berdasarkan hala tuju ini, helikopter akan menjalani *avionic major upgrade* dari *analogue* kepada *glass cockpit* selaras dengan kemajuan semasa helikopter yang terkini seperti AW 139. Hala tuju ini dirancang untuk dioperasikan sehingga tahun 2040. 'Glass cockpit' helikopter membantu mempersiapkan juruterbang untuk mengoperasikan Helikopter Operasi Maritim (HOM) AW 139 pada masa akan datang selari dengan peranan utama skuadron ini iaitu *Lead in Trainer*. Gambar dibawah menunjukkan perancangan *avionic major upgrade* pada helikopter AS 555SN FENNEC.





Dalam masa yang sama, kekangan kewangan, kerosakan pada peralatan yang usang antara isu yang membantut perancangan ini. Ini mengakibatkan juruterbang berdepan dengan masalah kurang jam penerbangan dan menjejaskan kompetensi juruterbang kerana kurang latihan dapat dilaksanakan. Selain itu, peralatan yang tidak berfungsi mengundang kepada faktor berlakunya kemalangan dan menjejaskan keselamatan penerbangan.

Oleh yang demikian, penggunaan alat bantuan penerbangan sebagai inisiatif sementara mendapat kelulusan untuk hala tuju ini diteruskan. Penggunaan ipad yang dilengkapi dengan aplikasi *air navigation* dapat membantu juruterbang bagi membuat persediaan sebelum penerbangan dan meningkatkan *situational awareness* semasa penebangan. Hal ini kerana alat ini dapat membantu juruterbang merancang laluan pesawat untuk ke destinasi yang dituju dan memberikan maklumat penting seperti *heading*, *distance* dan *time taken* bagi penyediaan *log card*. Juruterbang juga dapat melihat gambaran secara visual *Notice to Airmen* (NOTAM), ketinggian puncak gunung, bukit, bangunan tinggi dan kawasan bahaya serta terhad sepanjang laluan yang dirancang. Semasa penerbangan pula, alat ini dapat memberikan *real-time position* seperti peralatan *moving map* yang terdapat di helikopter masa kini. Selain itu, juruterbang dapat membuat persediaan awal



dengan mengenalpasti kawasan yang sesuai berdekatan dengan laluan yang dirancang bagi membantu juruterbang membuat keputusan sekiranya perlu melaksanakan pendaratan kecemasan yang akan memudahkan untuk tim recovery memasuki tempat tersebut dan membawa pulang helikopter menggunakan *loader* sekiranya tidak dapat dibaiki di tempat kejadian.

Alat ini juga dapat digunakan bagi menyimpan rujukan dan panduan dalam bentuk pdf bagi memudahkan juruterbang membuat rujukan dan tidak perlu membawa bahan rujukan dalam bentuk *hard copy*. Ipad juga dapat memudahkan juruterbang untuk menyediakan dan menghantar *flight plan* menerusi e-mel ke menara kawalan yang terlibat sekiranya berada luar kawasan dan tidak perlu membawa komputer riba.

Alat ini juga dapat digunakan bagi menyimpan rujukan dan panduan dalam bentuk pdf bagi memudahkan juruterbang membuat rujukan dan tidak perlu membawa bahan rujukan dalam bentuk *hard copy*.

Walau bagaimanapun, terdapat keburukan penggunaan ipad sekiranya tidak diletakkan di tempat yang sepatutnya semasa penerbangan boleh mengundang kepada kemalangan. Oleh itu, ipad hendaklah diletakkan pada *instrument panel* menggunakan *ipad holder* atau *kneepad* untuk diletakkan pada anggota badan juruterbang bagi memastikan alat tersebut tidak menjejaskan keselamatan penerbangan. Kekurangan penggunaan ipad adalah juruterbang perlu memastikan bateri dicas sepenuhnya sebelum penerbangan dan perlu menyediakan *power bank* sekiranya melibatkan penerbangan yang jauh atau jangka masa yang panjang berbanding peralatan *moving map* yang menggunakan elektrik daripada pesawat.

Kesimpulannya, dalam kegawatan ekonomi sekarang inisiatif yang boleh diambil seperti penggunaan ipad sangat membantu bagi menyokong keperluan operasi pesawat. Diharapkan perancangan hala tuju helikopter AS 555SN dapat diluluskan dan dilaksanakan seperti yang dirancang bagi meneruskan pengoperasian pesawat ini sehingga tahun 2040. 🚫





Dikuasakan oleh Allo Fibre



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Daftar sekarang untuk penjimatan berganda khas untuk warga TLDM



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RM69*
500 Mbps

~~RM199~~
RM99*
1 Gbps

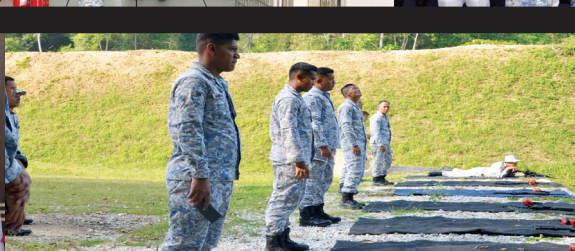
*Tertakluk terma dan syarat.



1. Pakej kontrak selama 24 bulan. Harga promosi pakej 500Mbps and 1Gbps adalah untuk 12 bulan pertama sahaja. Harga pasaran akan dikenakan secara automatik selepas harga promosi tamat. Tertakluk kepada terma dan syarat <https://www.citybroadband.my/terms-conditions-promotions/pakej-wira/>
2. Tiada penalti dikenakan untuk penamatan awal kontrak. Tertakluk terma dan syarat.



PUSAT
MAR
PUSTA





TAKTIK KRITIM KMAR



KD TODAK FROM EAST TO WEST FOR LIMA'23 LANGKAWI

Oleh Sub Lt Mohammad Shafiq Aqmar bin Sabturo RMN - KD TODAK

2023 merupakan tahun yang bermakna bagi KD TODAK kerana telah ditugaskan sebagai wakil tunggal Markas Wilayah Laut 2 (MAWILLA 2) bagi menyertai The Langkawi International Maritime and Aerospace Exhibition 2023 (LIMA'23) bermula pada 23 sehingga 27 Mei 2023 yang lalu. Penyertaan KD TODAK dalam LIMA'23 ini menunjukkan bahawa Tentera Laut Diraja Malaysia (TLDM) sentiasa komited meningkatkan keupayaan aset - aset TLDM khasnya dalam mendukung Tonggak Ketiga Strategi Pertahanan Negara iaitu perkongsian berwibawa melalui usaha meningkatkan keupayaan aset TLDM agar setanding dengan angkatan laut negara sahabat.

KD TODAK merupakan satu daripada lapan buah kapal Skuadron Kapal Pembina Laju Meriam ke - 6 (FPC 6). 6 buah kapal daripada kelas JERONG berpangkalan di MAWILLA 2, Sandakan dan 2 buah kapal kelas PERDANA berpangkalan di Tambatan Pangkalan Kota Kinabalu (TPKK).

Pada tahun 2020, KD TODAK telah berjaya melaksanakan program Refit Inovasi Baharu (*Refit Rebranding*) serta *Repowering*. Melalui program ini, penggantian baharu bagi ketiga - tiga jentera utama kapal serta sistem janakuasa kapal daripada jenama MTU kepada jenama *Cummins telah berjaya* dilaksanakan. Penggantian sistem ini diperamati sangat memberangsangkan kerana kesan pembakaran minyak yang lebih baik serta efisien, pengeluaran asap yang kurang berbanding jentera utama jenama MTU. Penambahbaikan ini meningkatkan kelajuan kapal pada tahap optimum bagi tempoh masa yang lama.

Kejayaan program ini telah dibuktikan dengan penglibatan KD TODAK semasa LIMA'23 Langkawi. Kapal telah berjaya melaksanakan pelayaran pergi dan balik sejauh 3,040 batu nautika bermula daripada Tambatan Pangkalan Sandakan (TPS) tanpa sebarang kemalangan dan kecederaan melibatkan 3P iaitu (*People, Platform, Process*). LIMA'23 Langkawi merupakan eksekusi gabungan bilateral yang melibatkan penyertaan daripada 14

Photo Exercise oleh kesemua kapal-kapal tentera laut yang terlibat dalam LIMA'23 Langkawi.

kapal TLDM, 1 kapal Tentera Laut Diraja Brunei (TLDB), 1 kapal *Japan Maritime Self-Defence Force* (JMSDF), 1 kapal *Royal Thai Navy* (RTF), 1 kapal *Republic of Singapore Navy* (RSN), 1 kapal *Vietnam People's Navy* (VPN), 3 kapal Tentera Nasional Indonesia Angkatan Laut (TNI-AL), 1 kapal *United States Navy* (USN), 1 kapal *Republic of Korea Navy* (ROKN), 1 kapal *Italian Navy* (MM), 1 kapal *Royal Indian Navy* (RIN), 1 kapal *Pakistan Navy* (PN), dan 1 kapal *The People's Liberation Army Navy* (PLA Navy).

Objektif utama LIMA diadakan adalah untuk meningkatkan kebolehoperasian antara penyertaan angkatan laut daripada negara-negara yang terlibat serta meningkatkan pemahaman dan perkongsian ilmu. Daripada sudut pandangan lain, Malaysia melaksanakan ekseseais bilateral seperti ini adalah untuk meningkatkan kerjasama serantau antara negara ASEAN agar keamanan dan kedaulatan negara dapat dipelihara.

Kesimpulannya, program Refit Inovasi Baharu dan **Repowering** bagi FPC 6 dilihat sebagai satu penyelesaian jangka pendek yang sangat sesuai bagi mengekalkan keupayaan aset-aset TLDM terutama sekali kapal - kapal dari skuadron FPC 6 agar kekal relevan walaupun telah menjelang usia hampir 50 tahun dalam perkhidmatan TLDM. Namun, dengan adanya prospek 15 to 5 yang telah ditetapkan, TLDM pasti akan memantapkan lagi armada Tentera Laut Diraja Malaysia di samudera raya kelak. **Sedia Berkorban!.** 🚩



OPSO Discussion sebelum pelaksanaan LIMA SEA EXERCISE (LSX) di Dewan Tun Rahah, MAWILLA 3.



TPS



TPTP



TPPL



LIMA'23 FR



TPL



TPKK

Pelayaran daripada Sandakan ke Langkawi.

11 RAKYAT MALAYSIA HANYUT DI PERAIRAN FILIPINA BERJAYA DISELAMATKAN KD PAUS

Oleh Lt Saranjoe a/l Sukcha TLDM - KD PAUS



Anggota KD PAUS menuju ke Bulk Carrier TOMINI DYNASTY untuk mengambil kesemua mangsa.

Sebelas rakyat Malaysia dipercayai mangsa kepada kejadian bot terbalik dan hanyut di perairan Sibutu, Filipina selama tiga hari telah berjaya diselamatkan oleh Pasukan Kapal Diraja PAUS (KD PAUS) pada 31 Mac 2023. Bilik Operasi Markas Wilayah Laut 2 (MAWILLA 2) telah menerima maklumat dari *Maritime Rescue Sub-Centre* (MRSC) Kota Kinabalu yang memaklumkan Kapal Dagang TOMINI DYNASTY telah menjumpai 11 orang warganegara Malaysia di perairan Sibutu, Filipina. Berdasarkan maklumat yang diterima, bot yang dinaiki sebelas mangsa termasuk kanak-kanak dan warga emas telah terbalik dipukul ombak semasa dalam keadaan cuaca buruk.

Seterusnya, KD PAUS telah diaturgerakkan memandangkan kapal tersebut adalah dalam penugasan Op PASIR SELATAN di sekitar Perairan Tanjung Labian. Kapal telah melaksanakan pertemuan bersama Kapal Dagang TOMINI DYNASTY di posisi sekitar 8 batu nautika Selatan Tanjung Labian bagi mengambil kesemua mangsa yang terlibat dalam kejadian.

Mangsa yang dikenali sebagai Siti Naun Osman, 25, memaklumkan beliau bersama sepuluh lagi mangsa terdiri lima wanita, dua lelaki dan tiga

kanak-kanak dalam perjalanan dari Tawau menuju ke Semporna pada sebelah malam 29 Mac 2023, namun bot yang dinaiki mereka telah terbalik dipukul ombak yang kuat. KD PAUS telah membawa mangsa ke Pulau Tambisan dan diserahkan kepada Pasukan Polis Marin Lahad Datu untuk tindakan selanjutnya. KD PAUS kemudian meneruskan perjalanan kembali ke Tambatan Pangkalan Sandakan setelah selesai urusan merujuk mangsa kepada Pasukan Polis Marin Lahad Datu.

Kronologi:

Sebaik menerima maklumat dan arahan dari Bilik Operasi MAWILLA 2 berkenaan situasi yang telah menimpa kesemua 11 mangsa bot terbalik warganegara Malaysia, kapal telah menuju ke lokasi pertemuan bersama Bulk Carrier TOMINI DYNASTY yang telah menyelamatkan 11 orang mangsa tersebut di sekitar Pulau Sibutu. Setiba di lokasi pertemuan, kapal KD PAUS telah menurunkan bot KD PAUS. Pegawai Operasi bersama 4 org anggota telah menuju ke Bulk Carrier TOMINI DYNASTY menaiki bot dan telah berjumpa dengan master serta krew Bulk Carrier tersebut untuk mendapatkan maklumat tambahan berkenaan situasi yang menimpa kesemua 11 mangsa tersebut.

Selesai bertukar maklumat, kapal Bulk Carrier TOMINI DYNASTY memindahkan mangsa secara berperingkat ke KD PAUS termasuk seorang wanita warga emas menggunakan *stretcher* yang berada dalam keadaan lemah kerana telah hanyut selama 3 hari di laut berpaut pada bot mereka yang terbalik. Mangsa yang dipindahkan telah diberikan kabin untuk berehat serta hidangan panas dan minuman yang mencukupi. Seterusnya bot mangsa diturunkan dari Bulk Carrier TOMINI DYNASTY menggunakan kren dan dibawa ke KD PAUS. Bot mangsa seterusnya ditunda ke Pulau Tambisan yang mengambil masa lebih 4 jam. Setibanya di Pulau Tambisan, pihak kapal KD PAUS telah menyerahkan 11 orang mangsa beserta bot kepada pihak Polis Marin Lahad Datu untuk urusan selanjutnya.

Dalam pada itu, pihak Tentera Laut Diraja Malaysia (TLDM) mengingatkan kepada orang ramai agar sentiasa peka dengan keselamatan diri, penumpang dan harta benda semasa berada di laut bagi mengelakkan insiden yang tidak diinginkan berlaku. KD PAUS sentiasa bersedia menjalankan amanah yang dipertanggungjawabkan dengan sebaiknya. 🇲🇾



MAJLIS PENGHARGAAN PANGLIMA TENTERA LAUT KE-18 OLEH MARKAS PEMERINTAHAN LATIHAN DAN DOKTRIN TLDM

Oleh P/Laksma Mohd Hasnan bin Mohd Hanafiah

Markas Pemerintahan Latihan dan Doktrin (MPLD) TLDM merupakan Markas pertama diberi peluang untuk meraikan Majlis Penghargaan Panglima Tentera Laut (PTL) ke-18 iaitu Laksamana Tan Abdul Rahman bin Ayob dan isteri Puan Sri Dr Norinah binti Mustapha yang berlangsung pada 7 Jul 2024 yang lalu bertempat di KD SULTAN ISMAIL Tanjung Pengelih, Johor. Ikonik penganjuran majlis ini merupakan julung kali diadakan di peringkat Markas ini manakala pelaksanaan pula memilih lokasi yang berbeza dari kebiasaan.





Panglima Tentera Laut telah diraikan dalam satu Istiadat Perbarisan Penghargaan yang melibatkan seramai 54 pegawai dan 264 Anggota Lain-lain Pangkat (LLP) yang terdiri daripada 8 platoon MPLD dan Unit Bawah Naungan (UBN) termasuk 1 platoon dari Markas Pasukan Simpanan (MPS). Turut diraikan bersama adalah isteri beliau, Puan Sri Dr Norinah binti Mustapha selaku Pengerusi Jemaah Badan Kebajikan Keluarga Angkatan Tentera (BAKAT) TLDM. Bagi menghargai kehadiran Tan Sri dan Puan Sri, pelbagai program telah dirancang dan dimulakan dengan upacara perbarisan istiadat pada sebelah pagi dan disusuli dengan majlis ramah mesra bersama warga MPLD bertempat di Auditorium Shariff. Pada sebelah petang pula berlangsung majlis Hi tea BAKAT dan riadah golf manakala majlis BBQ pula dilaksanakan pada sebelah malam. Turut hadir meraikan majlis penghargaan ini adalah Asisten Ketua Staf Sumber Manusia, Laksamana Pertama Badarudin bin Taha, Panglima Pasukan Simpanan, Laksamana Pertama Azhar bin Adam dan kesemua Pegawai-Pegawai Memerintah serta Pegawai Kanan MPLD dan UBN termasuk dari MPS.

Secara umumnya, simbolik penghargaan ini mencerminkan komitmen yang tinggi dan kesungguhan yang rapi telah dipamerkan oleh warga MPLD bagi memastikan tradisi TLDM dikekalkan dengan penuh bermakna. Panglima Pendidikan Latihan dan Doktrin TLDM iaitu Laksamana Muda Dato' Pahlawan Abd Halim bin Haji Shaari dan isteri turut menzahirkan ucapan terima kasih kepada YBhg Tan Sri PTL dan Puan Sri atas kesudian meluangkan masa bersama-sama menghadiri majlis penghargaan ini. Di sini pasti ada tawa bahagia, disini ada tangisan, dan disini ada rindu, namun ianya semua pasti berat untuk diingatkan kembali apabila kita harus berpisah kelak. Itulah sekelumit bingkisan puitis yang diucapkan oleh Panglima Pendidikan dan Latihan Doktrin TLDM bagi mengenang jasa YBhg Panglima Tentera Laut atas jasa dan bakti pada TLDM selama 42 tahun berkhidmat dan 1 tahun 6 bulan menerajui puncak pimpinan tertinggi TLDM.



Program penghargaan yang julung-julung kali diadakan amat memberi cabaran yang besar kepada Markas dari segi pentadbiran dan bantuan logistik seperti penyediaan penginapan, sajian Lokasi KDSI yang jauh menyebabkan kesukaran untuk mendapatkan bantuan logistik. Penyediaan penginapan dan sajian untuk pegawai dan anggota berjumlah melebihi 500 orang menjadi satu cabaran yang besar kerana KDSI hanya dapat menampung 300 orang sahaja. Walau bagaimanapun halangan ini dapat ditempuhi dengan kerjasama semua warga Markas dan Unit Naungan.

Sejajar dengan penjenamaan semula Markas Pendidikan dan Latihan TLDM kepada Markas Latihan dan Doktrin (MPLD) yang telah zahirkan, pasti ianya menjadi satu tugas dan tanggungjawab yang lebih berat dan mencabar bagi seluruh warga MPLD. Cabaran ini dilihat mampu diatasi sekiranya MPLD mendapat sokongan yang padu dari pucuk pimpinan TLDM dengan kesungguhan serta panduan pihak pengurusan TLDM yang berintegriti tinggi secara logiknya pasti akan banyak membantu MPLD bergerak dengan lebih baik dan berdaya saing. Sehubungan itu juga, MPLD kini dalam fasa memperkasakan infrastruktur latihan diperingkat asas mahupun lanjutan. Pihak pengurusan TLDM telah meluluskan sebahagian besar bajet berjumlah 81 juta bagi memastikan kerja-kerja selenggaraan dan penambahbaikan fasiliti pusat latihan dan menampung keupayaan sumber dan pembangunan modal insan yang lebih komprehensif. Projek pembangunan ini dijangka akan bermula pada awal tahun hadapan yang mana akan memberi keselesaan kepada Perajurit Muda seawal memasuki perkhidmatan. Pembangunan ini dilihat sangat wajar dalam usaha memenuhi keupayaan sumber manusia apabila meletakkan aras 97 peratus kekuatan warga TLDM pada tahun 2025.

Markas ini juga sedang menambahbaik perjawatan yang sedia ada berpanduan penjenamaan semua MPPL kepada MPLD yang dilihat sangat signifikan. Penggabungan Sel Bahagian Doktrin dari PUSMAS TLDM, Pusat Peperangan Elektronik (PPE) dan Pusat Taktikal Maritim (PUSTAKMAR) akan digabungkan sesuai dengan pengarah semasa menjadikan satu unit yang baharu

iaitu Pusat Peperangan dan Doktrin (PUSPED) TLDM. Penggabungan ini diletakkan di bawah pentadbiran MPLD bagi tujuan memperkasakan pengurusan latihan dan doktrin TLDM. Pemerksaan beberapa perjawatan di KD PELANDOK turut dipindah butir bagi membolehkan keupayaan Markas dan UBN bergerak dengan lebih efektif. Keunikan pemerksaan ini berteraskan perjawatan sedia ada tanpa adanya penambahan perjawatan baharu namun menitikberatkan **output** yang berkesan.

MPLD kini turut mencari kelainan dalam aspek kerohanian dan kesihatan. Berteraskan kepada sistem latihan yang sedia ada, 3 elemen utama masih dititikberatkan iaitu elemen **Cognitive** (mental and knowledge), **Psychomotor** (physical skills) dan **Affective** (attitude) yang mana menjadi keutamaan dalam setiap latihan dan pekerjaan. Bagi memastikan sistem ini berkesan, pelbagai program diselitkan antaranya adalah larian secara berkumpulan, kajian berimpak tinggi terhadap pembangunan infrastruktur, memperkasakan keupayaan jurulatih terhadap keupayaan Teknik Mengajar dan memupuk pemikiran warga yang kreatif berdasarkan keberhasilan idea-idea baharu yang diketengahkan. Hal ini dilihat sangat berkesan bagi memastikan konsep latihan bergerak dengan sempurna. Panglima Pendidikan Latihan dan Doktrin turut menitikberatkan kesempurnaan kerja. Pencapaian 5 Bintang pada Audit Kesiagaan Tahunan yang lalu telah membuktikan penanda aras yang telah digariskan. Pelbagai inisiatif baharu yang bakal diaktifkan kembali adalah pembelajaran atas talian dengan memperkasakan pgunaan **tablet** kepada pelatih KD PELANDOK. Kepimpinan pegawai juga menjadi keutamaan apabila elemen kekemasan dan kesegakkan akan diutamakan. Setiap pegawai perlu menghadiri kelas **officer grooming** bagi membolehkan elemen kekemasan dititikberatkan sewaktu mengikuti kursus asas di KD SULTAN IDRIS I.

Dalam usaha mencapai semua perkara yang dihasratkan, MPLD memerlukan komitmen semua warga untuk terus mencorakkan dan membuktikan bahawa MPLD akan menjadi satu Markas yang bakal disegani dan dijadikan contoh terbaik diperingkat ATM mahupun kebangsaan kelak. 🚩





THE ROYAL MALAYSIAN NAVY **SPECIAL** **FORCES PASKAL**

By WO II PAP (PKL) Mohd Faizal bin Zakaria - Mk PKL

Special forces, also known as elite forces or special operations forces, are highly trained military units that carry out unconventional and high-risk missions. These elite units are often tasked with carrying out missions that are too dangerous or too sensitive for conventional forces. Special forces play a crucial role in modern warfare, conducting missions such as hostage rescues, counterterrorism operations, reconnaissance, and direct action against enemy targets. In this essay, we will explore the history, training, and missions of special forces around the world. Special forces have a long and storied history, dating back to ancient times when elite warriors were used for special missions. In modern times, special forces have become an essential part of military operations, with almost every country in the world having its own special forces units. Some of the most well-known special forces units include the United States Army Special Forces, also known as the Green Berets, the British Special Air Service (SAS), and the Russian Spetsnaz.

The Royal Malaysian Navy Special Forces, also known as PASKAL (Pasukan Khas Laut), is one of the most elite and respected special forces units in Malaysia. Trained to handle a variety of operations in both naval and land environments, PASKAL is a crucial component of Malaysia's military capabilities and plays a vital role in ensuring the country's maritime security. PASKAL was established in 1980 in response to the growing need for a specialized maritime unit to protect Malaysia's interests in the region. The unit was initially formed with just a handful of personnel, but over the years it has grown in size and stature to become one of the most proficient special forces units in Southeast Asia.

The selection process to become a member of PASKAL is extremely rigorous and demanding. Prospective candidates must undergo a series of physical, mental, and emotional tests to determine their suitability for the unit. Only the best and brightest are chosen to join PASKAL, and those



One of the key strengths of PASKAL is its emphasis on teamwork and cooperation.

who make the cut must undergo months of intense training to prepare them for the challenges they will face in the field.

One of the key roles of PASKAL is to protect Malaysia's maritime borders and to counter any threats to the country's sovereignty. This includes combating piracy, smuggling, and other illegal activities that take place in Malaysian waters. PASKAL operators are highly trained in maritime warfare tactics and techniques, and are skilled in a variety of operations such as boarding ships, conducting search and rescue missions, and carrying out reconnaissance missions in hostile environments.

In addition to their maritime duties, PASKAL operators are also trained to conduct land-based operations in a variety of environments. This includes counter-terrorism operations, hostage rescue missions, and reconnaissance missions deep behind enemy lines. PASKAL operators are trained to work in small teams and to operate independently in high-pressure situations, making them a versatile and adaptable force.

One of the key strengths of PASKAL is its emphasis on teamwork and cooperation. PASKAL operators are trained to work closely together and to trust in their fellow team members. This camaraderie and cohesion are crucial in high-pressure situations, where split-second decisions can mean the difference between success and failure. PASKAL operators are also trained to think on their feet and to adapt quickly to changing circumstances. They are taught to be resourceful and creative in their problem-solving and to never give up, no matter how difficult the situation may be. This ability to think quickly and decisively has earned PASKAL operators a reputation for being able to handle even the most challenging and unpredictable situations.

Another key strength of PASKAL is its commitment to continuous training and professional development. PASKAL operators undergo regular training exercises and simulations to hone their skills and to prepare them for any eventuality.

This dedication to excellence has made PASKAL one of the most proficient and effective special forces units in the region. In recent years, PASKAL has been involved in a number of high-profile operations that have showcased their skills and capabilities. One such operation was the rescue of a Malaysian oil tanker that had been hijacked by pirates off the coast of Somalia. PASKAL operators were able to board the tanker, neutralize the pirates, and rescue the crew without any casualties. This operation demonstrated PASKAL's ability to operate effectively in high-stress environments and to get the job done, no matter what.

In conclusion, the Royal Malaysian Navy Special Forces (PASKAL) is a highly skilled and effective special forces unit that plays a crucial role in ensuring Malaysia's maritime security. With their rigorous training, strong teamwork, and commitment to excellence, PASKAL operators are able to handle a wide range of operations and challenges, making them one of the most respected special forces units in the region. As Malaysia continues to face new and evolving threats to its maritime security, PASKAL will no doubt play a key role in ensuring the country's safety and security for years to come. 🚩





HMS REPULSE

PENUGASAN MV MEGA BAKTI BAGI AKTIVITI PENGECAMAN DAN PENGESAHAN KONDISI SEMASA BANGKAI KAPAL PERANG DAN PESAWAT

Oleh Kept Dzul Khairi bin Mat Saad TLDM - Markas Angkatan Kapal Selam

Kapal penyelamat kapal selam Tentera Laut Diraja Malaysia (TLDM), MV MEGA BAKTI (MB) telah membuktikan keupayaan melaksanakan tugas sekundernya melalui penglibatan di dalam aktiviti pengecaman dan pengesahan kondisi semasa bangkai kapal perang era Perang Dunia Ke-2 milik Tentera Laut British iaitu HMS REPULSE dan HMS PRINCE OF WALES (POW) serta pesawat B29 milik Tentera Udara Amerika Syarikat pada 18 hingga 20 Sep 23. Penugasan ini merupakan rentetan daripada permohonan Jabatan Warisan Negara (JWN), Kementerian Pelancongan Seni dan Budaya (MOTAC) kepada TLDM bagi membantu proses pengecaman serta pengesahan kondisi semasa HMS REPULSE dan HMS POW yang karam semasa Perang Dunia Kedua di Perairan Kuantan serta bangkai pesawat B29 yang dipercayai juga berada di kawasan berhampiran.

Proses pengecaman dan pengesahan bangkai kapal perang ini amat penting memandangkan terdapat aduan berkenaan penemuan rangka kapal

di Jeti Bandar Penawar, Johor. Proses pencarian bangkai kapal perang dan pesawat ini telah disertai oleh Tim Penyelam TLDM, wakil Bahagian Dasar dan Perancangan Strategik (BDPS), Tim Forensik Arkeologi ATM, wakil JWN dan Tim Jurutera Sonar. Penglibatan MV MB di dalam aktiviti ini sangat signifikan di mana ianya berfungsi untuk memberi khidmat bantuan dan kepakaran teknikal menggunakan *Remote Operated Vehicle* (ROV), *multibeam sonar* dan platform untuk operasi pencarian.

MV MB telah memulakan pelayaran dari Kota Kinabalu pada 15hb September 2023 dan tiba di lokasi pencarian pada 18hb September 2023. Proses pencarian telah dimulakan seawal 0600H dengan melaksanakan imbasan menggunakan *multibeam sonar* dan ROV di sekitar lokasi HMS REPULSE dan pesawat B29 sehingga 2200H. Walau bagaimanapun, imbasan pada hari pertama itu tidak berjaya menemui pesawat B29 dalam lingkungan 5 *cables* dari posisi HMS REPULSE.

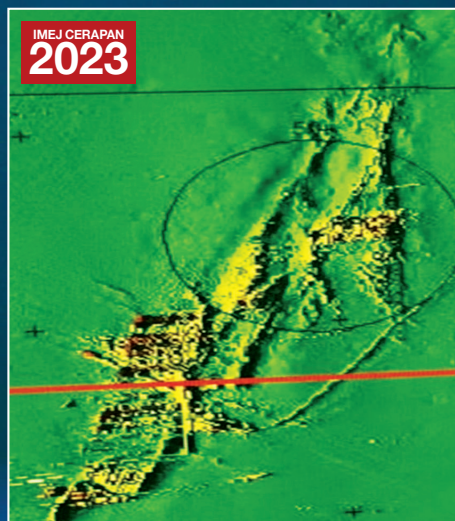
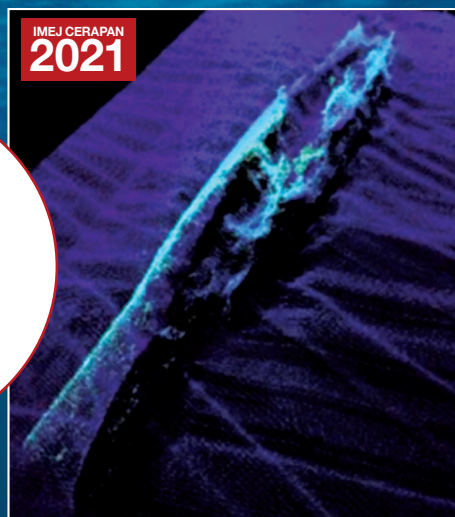


HMS POW

**HMS
REPULSE**
telah dikesan
pada kedalaman
55
meter

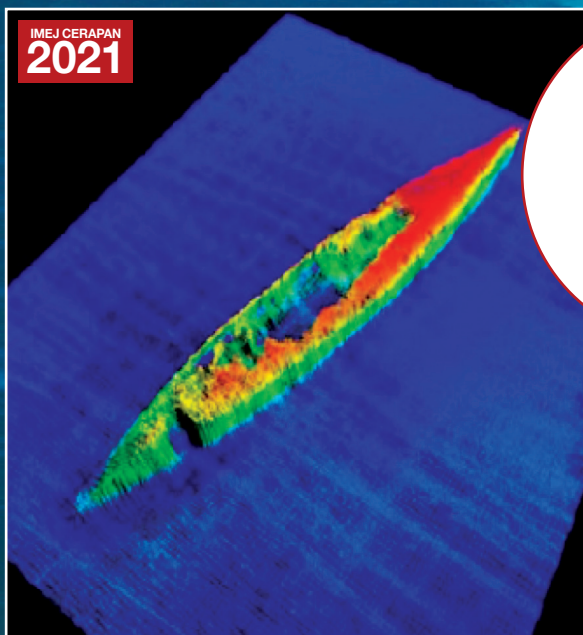
Kerja-kerja imbasan ROV sesi kedua telah dilaksanakan di sekitar posisi HMS REPULSE pada 19hb September 2023 bermula 0730H. Setelah selesai proses imbasan tersebut dilaksanakan, MV MB telah belayar ke posisi HMS POW dan melaksanakan pula imbasan *multibeam* sonar bermula 1140H hingga 1315H. MV MB seterusnya meluaskan pencarian pesawat B29 kepada 2 batu nautika dari posisi HMS REPULSE menggunakan *multibeam* sonar bermula 1540H hingga 1750H. Imbasan *multibeam* sonar telah mengesan objek yang menyerupai pesawat udara yang berada kira-kira 1.9 batu nautika dari posisi HMS REPULSE. Usaha pencarian hari ketiga diteruskan dengan melaksanakan *underwater photography* menggunakan peralatan *Shallow Water Diver* (SWD) di sekitar posisi pesawat B29.

Secara amnya, pencarian selama tiga hari ini telah berjaya mengesan kedudukan dan kondisi semasa kapal perang dan pesawat tersebut. HMS REPULSE telah dikesan pada kedalaman 55 meter. Hasil imbasan *multibeam* sonar menunjukkan terdapat perbezaan ketara kondisi HMS REPULSE sekarang berbanding kondisi kapal itu sekitar tahun 2019 dan tahun 2021. Hasil pemeriksaan lanjut menggunakan ROV mengesahkan terdapat perubahan yang agak ketara terhadap keseluruhan bentuk dan dimensi simetri kapal tersebut yang berkemungkinan besar disebabkan oleh aktiviti *salvage* oleh pihak ketiga.



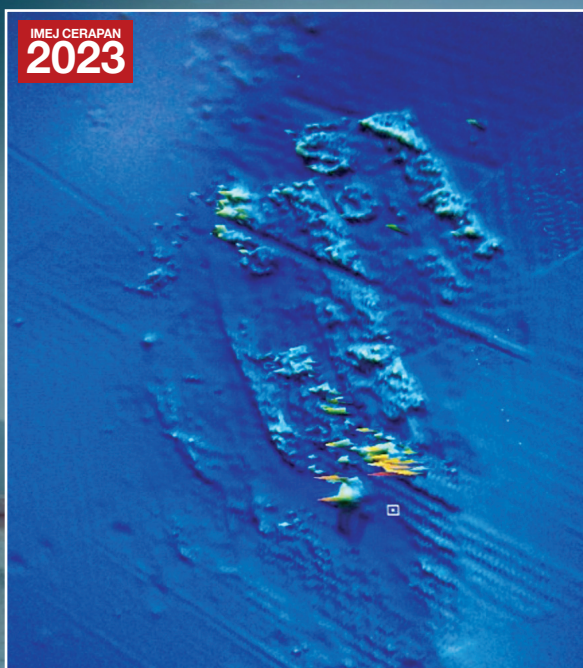
Perbandingan Imej Cerapan HMS REPULSE

HMS POW pula telah dikesan pada kedalaman 70 meter. Hasil imbasan *multibeam* sonar dan pemeriksaan lanjut menggunakan ROV menunjukkan perubahan yang sangat ketara kepada keseluruhan bentuk dan dimensi simetri HMS POW berbanding pengesanan sonar yang dilakukan pada tahun 2021. Penemuan ini menunjukkan bahawa aktiviti *salvage* oleh pihak ketiga dipercayai turut dilakukan terhadap HMS POW sekaligus mengakibatkan kepada perubahan tersebut.



IMEJ CERAPAN
2021

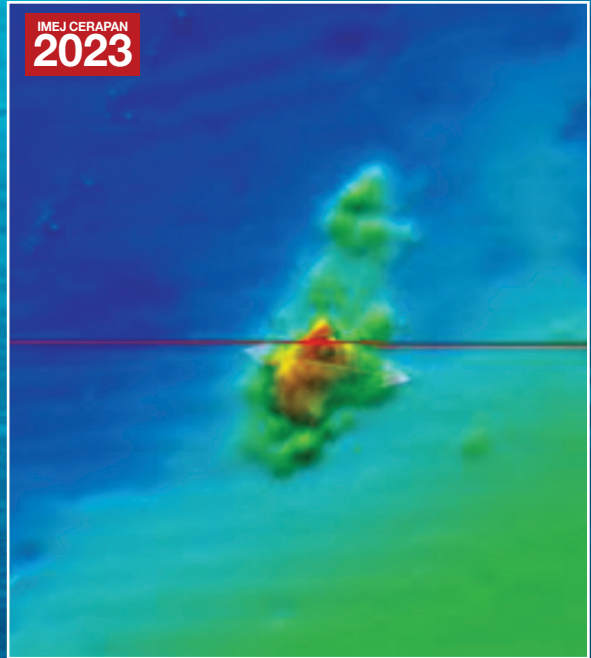
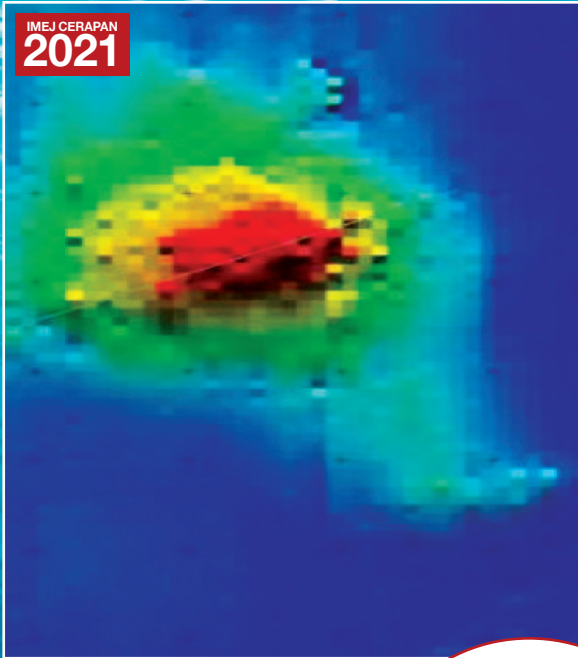
HMS POW
pula telah
dikesan pada
kedalaman
70
meter



IMEJ CERAPAN
2023

Perbandingan Imej Cerapan HMS POW





Perbandingan Imej Cerapan
Dipercayai Pesawat B29

Objek yang menyerupai pesawat udara yang dipercayai **B29** telah dikesan pada kedalaman

68
meter

Manakala objek yang menyerupai pesawat udara yang dipercayai B29 telah dikesan pada kedalaman 68 meter. Hasil imbasan *multibeam* sonar menunjukkan persamaan dari aspek simetri di antara keseluruhan bentuk dan dimensi pesawat tersebut dengan imej yang telah direkodkan pada tahun 2021. Walau bagaimanapun, disebabkan oleh pemeriksaan lanjut yang hanya bergantung kepada *underwater photography*, pengesahan tidak dapat dilakukan secara terperinci dan terdapat kebarangkalian bahawa pesawat tersebut merupakan pesawat G3M Nell dan bukannya B29 berdasarkan kepada maklumat teknikal pesawat dan laporan pasukan penyelam yang terlibat semasa aktiviti menyelam dilakukan pada tahun 2019.

Pada dasarnya, penglibatan MV MB sebagai platform bantuan teknikal di dalam proses pengecaman dan pengesahan kondisi semasa kapal perang dan pesawat telah mencapai objektif yang telah ditetapkan. Semua maklumat yang telah diperolehi sepanjang aktiviti pencarian dan pengesahan kondisi semasa kapal perang diharap dapat membantu pihak JWN dalam melengkapkan kertas siasatan terhadap kes *salvage* haram yang telah dilakukan oleh pihak yang tidak bertanggungjawab diperairan Malaysia. 🚩





ANALYSIS ON NIGHT DRONE OPERATION IN **RUSSIA-UKRAINE** **AIRFIELD**

Oleh Lt Muhammad Syamil bin Sari RMN - Stesen Udara Kota Kinabalu

Destroyed a Russian IL-76 Candid transport jet during a Ukrainian drone strike on Kresty Air Base in Pskov, Russia.

Introduction

The recent Russia-Ukraine war is not the first war in the history of warfare in which drones were used as the main mechanism of attack. Nevertheless, the use of drones in Ukraine represents a step change. Never before have so many drones been used in a military confrontation. It is estimated by The Royal United Services Institute that Ukraine is losing 10,000 drones per month, which gives an indication of how many are currently in use. Manned aviation has the tendency to be neutralized by aerial defence systems, making unmanned systems particularly preferable.

On the night of 29th August this year, the Ukrainian kamikaze drones launched a bold attack on Russian airfields after penetrating more than 370 kilometers into Russia, which caused the destruction of two of Russia's IL-76 heavy transport aircraft and left two

other planes seriously damaged. It was estimated that up to twenty drones were launched within Russia, with either the knowledge or oversight of Ukraine's Defense Intelligence Directorate. Within the same week, cardboard drones from Australian firm SYPAQ were reportedly used by Ukraine to damage a MiG-29 and four Su-30 fighters in Russia's Kursk Oblast. And in the latest event, Russian S-400 and S-300 air-defence systems in Crimea were reportedly targeted by Ukraine using drones as part of a mission to destroy them.

The Potential and Drawbacks of Long-Range Drone Technology

The utilization of inexpensive long-range drone strikes is not unknown, as they have existed since 2012. This technology has the capability to penetrate



Damage to two Russian IL-76 Candid transport jets during a Ukrainian drone attack on Kresty Air Base in Pskov, Russia



SYPAQ cardboard drones built from flatpack kits are reportedly used by Ukraine to attack a Russian airfield

deep beyond enemy defenses, avoid electronic and kinetic defenses, and strike military targets with high precision. However, the integration and operationalization of the technology are essential in a contested battlefield environment. For instance, the SYPAQ's Do-It-Yourself (DIY) drones do not have the explosive power of artillery, cruise missiles, or loitering ammunition but are highly cost-effective and can cause asymmetric strategic impacts. Although the explosives are relatively small, their outsized effects only require a fraction of the drone attacks to be successful, especially on parked aircraft, which are specifically vulnerable.

Long-range strikes were made possible with the emergence of airplanes. However, accuracy has always remained a limitation. Low bombing accuracy in combat conditions, even with the presence of human aircrew and technological aids, impedes precision bombing. Precision-guided munitions used during World War I relied on human input via remote control. The invention of inertial guidance systems afterwards allowed the autonomous navigation of weapons to precise coordinates. The revolution in precision navigation undoubtedly came about when the Global Positioning System (GPS) was developed in the second half of the twentieth century.



The emergence of small drone technology aided precision strike capability, especially with the availability of portable gyroscopes, accelerometers, and GPS receivers. Current drone autopilot systems, which only utilize mobile phone components in a specialized flight controller and open-source software stacks have the capability to precisely and autonomously navigate airplanes, helicopters, quadcopters, ground vehicles, boats, submarines, or rockets to any desirable locations on earth. Although these advances can be favourable, they can also pose a threat since precision-guided munitions can easily be created without costing a fortune.

Long-range missions commonly require the use of fixed-wing aircraft, despite the ready-to-fly quadcopter having a much simpler and more straightforward operating procedure. Long-range fixed-wing drones are much more complex to build and control, as they require an excellent team of engineers and operators to reliably and carefully manage the autonomous navigation and control weapon release in order to ensure success. A minor mistake may lead to mission failure, a flyaway, or a crash. A merely well-put-together operational system still requires climbing a steep learning curve for this technology to advance.

GPS jamming, similar to the ones used at the Ukrainian-Russian border, can cause high drift rates in off-the-shelf drone autopilot systems and lead to mission failure. Although these autopilots can navigate with a compass and inertial guidance systems, a sophisticated custom code and engineering hacks are necessary to ensure

the success of drone operations. The jamming environment can cause datalinks to malfunction or invite artillery airstrikes on the pilot through a careless radio frequency (RF) transmission. Drone operators should fly without datalinks in order to avoid counterattacks.

The Threat of Drone Operation to RMN Airfields

The global advances of drone technology, especially in the military context, should receive serious attention from the Royal Malaysian Navy. Unmonitored operation of drones within the vicinity of the RMN airfields may pose a serious threat if actions are not taken. The capability of drones to avoid kinetic and electronic defence may lead to the RMN defence and airfields being easily invaded if defence is not enhanced. The enhancement of high technology low-cost drones also means any capable individual, including civilians, now has the capacity to freely fly their drone and access into RMN military base and airfield without obtaining any permit. RMN should increase surveillance and control surrounding its airfield which may include GPS jamming as part of a proactive measure to control and manage this issue.

Conclusion

The utilization of drones in long-range strikes in the Ukraine-Russian conflict is the evidence that invading a country's defence and causing damage to military assets does not require expensive high-



Birds-eye-view of Lumut Airbase from the sky - showing the susceptibility of drone attack

tech weapons. The use of low-cost long-range drone in military context opens up the possibility of asymmetric warfare in which we are exposed to attacks from other forces. Proper countermeasure is necessary to avoid the occurrence of asymmetric warfare in which may cause us a disadvantage. Therefore, it is essential that our country have always be vigilant and updated on the advancements of these drone technologies and to be better equipped in order to sustain our country's defence. 🚀

Reference

Sakshi Tiwari. "Ukraine's 'Biggest Ever' Drone Attack On Russia Annihilates Four Ilyushin Il-76 Military Transport Aircraft", The Our Asian Times, 30 Nov 2023. <https://www.eurasiantimes.com/ukraines-biggest-ever-drone-attack-on-russia-destroys-four/>.

Tuliya Talmazan. "Military airfield hit as a wave of Ukrainian drones strike deep inside Russia", 30 Aug 2023. <https://www.nbcnews.com/news/world/ukraine-drone-attacks-russia-military-planes-damaged-pskov-rcna102496>

Mark Jacobsen. "Ukraine's drone strikes are a window into the future of warfare", 14 Sep 2023. <https://www.atlanticcouncil.org/blogs/new-atlanticist/ukraines-drone-strikes-are-a-window-into-the-future-of-warfare/>

Paul Cureton. "Ukraine war: Australian-made cardboard drones used to attack Russian airfield show how innovation is key to modern warfare". 31 Aug 2023. <https://theconversation.com/ukraine-war-australian-made-cardboard-drones-used-to-attack-russian-airfield-show-how-innovation-is-key-to-modern-warfare-212629>

Howard Altman. "Moment Of Drone Strike That Destroyed Russian Il-76s Seen In Infrared Image". 31 Aug 23. <https://www.thedrive.com/the-war-zone/moment-of-drone-attack-that-destroyed-il-76s-at-russian-base-seen-in-infrared-image>

EKSESAIS ULAR EMAS EAST

SIRI 5/24 KD SRI SEMPORNA

Oleh LK BDI (PKL) Mohd Farid bin Abdul Hapip - KD SRI SEMPORNA

Pada 12hb hingga 16hb Februari 2024 yang lepas, KD SRI SEMPORNA telah selesai melaksanakan Ekseksais ULAR EMAS EAST Siri 5/24. Ekseksais yang berkekuatan sebanyak 24 orang yang terdiri daripada tiga (3) orang berpangkat wai dan 21 anggota Lain-Lain Pangkat (LLP) ini telah dilaksanakan di kawasan sekitar Semporna, Sabah. Ekseksais ini dilaksanakan secara *full mission profile* berkonsepkan misi sabotaj instalasi musuh di mana kumpulan gempur telah diatur gerak bersama aset-aset sokongan yang lain. Objektif ekseksais ini adalah bertujuan bagi meningkatkan kemahiran serta kepakaran individu di dalam pandu arah darat, ilmu medan perang, dan pengendalian bahan letupan.

Ekseksais ini dilaksanakan secara bertahap, dimulakan dengan Tahap 1 iaitu persiapan operasi di mana Ketua Tim Gempur telah mengumpulkan anggota untuk penyampaian Perintah Amaran. Perintah ini dilaksanakan bertujuan untuk menyampaikan maklumat awal mengenai misi dan merencanakan persiapan. Dalam tahap ini juga anggota telah melaksanakan penembakan

Penyampaian taklimat akhir kepada anggota tim gempur. (Sumber: Penulis)

Penyampaian perintah operasi oleh Ketua Tim Gempur. (Sumber: Penulis)



Pelaksanaan solat di medan.
(Sumber:Penulis)

Pandu arah darat oleh tim gempur.
(Sumber:Penulis)

pelarasan, latihan pengendalian bahan letupan, kelas peta dan ilmu medan perang. Terdapat sedikit kelainan di dalam pelaksanaan Eksesais kali ini di mana anggota gempur telah dilengkapi dengan *Night Vision Device* yang baharu diterima. Peralatan ini sememangnya memberikan bantuan kepada anggota untuk melaksanakan misi-misi yang dilaksanakan pada waktu malam.

Seterusnya adalah Tahap 2 iaitu latihan kemahiran di mana anggota gempur telah dilepaskan ke medan dan melaksanakan pandu arah darat ke sasaran pada jarak 10 kilometer. Sepanjang pergerakan, kesemua anggota dikehendaki membawa peralatan tempur barisan pertama beserta beg tempur yang mengandungi peralatan sokongan dengan jumlah berat hampir 30 kilogram. Di fasa ini juga, anggota gempur turut didedahkan dengan praktikal solat di medan yang telah disampaikan oleh pegawai agama pasukan.

Bagi Tahap 3 iaitu, *Field Training Exercise* dilaksanakan apabila Tim Gempur dikehendaki melaksanakan sabotaj terhadap instalasi yang terdapat di sasaran. Simulasi elemen musuh dan *mockup* instalasi telah dilaksanakan bagi mewujudkan suasana yang sebenar. Ketua Tim Gempur juga telah merangka pelan tindak bagi memastikan penyusupan Tim Gempur tidak dapat dikesan sebelum mengambil tindakan setelah tiba di sasaran. Setelah selesai sesi latihan dijalankan, kesemua elemen terlibat bergerak pulang ke pasukan masing-masing.

Kesimpulannya, eksesais ini dilihat telah mencapai objektif di mana kesemua anggota yang terlibat dilihat mempunyai kemampuan dan kefahaman yang tinggi terhadap prosedur di dalam pelaksanaan operasi sabotaj yang dilaksanakan itu. Selain itu juga, kebanyakan bahan letupan simpanan di pasukan turut diuji dan telah beroperasi dengan baik. Sebagai tambahan, barisan anggota yang terlibat juga turut didedahkan dengan penggunaan peralatan khas baru iaitu *Night Vision Device* serta pelaksanaan solat di medan bagi anggota yang beragama Islam. 🏠

TAHAP 1

Persiapan operasi di mana Ketua Tim Gempur telah mengumpulkan anggota untuk penyampaian Perintah Amaran

TAHAP 2

Latihan kemahiran di mana anggota gempur telah dilepaskan ke medan dan melaksanakan pandu arah darat ke sasaran pada jarak 10 km

TAHAP 3

Field Training Exercise dilaksanakan apabila Tim Gempur dikehendaki melaksanakan sabotaj terhadap instalasi yang terdapat di sasaran

PELAKSANAAN EVOLUSI *DRY-HOOK UP* SIRI 1/23 DI KD TUNKU ABDUL RAHMAN

Oleh Lt Kdr Vello a/I Kuppusamy TLDM - KD TUNKU ABDUL RAHMAN

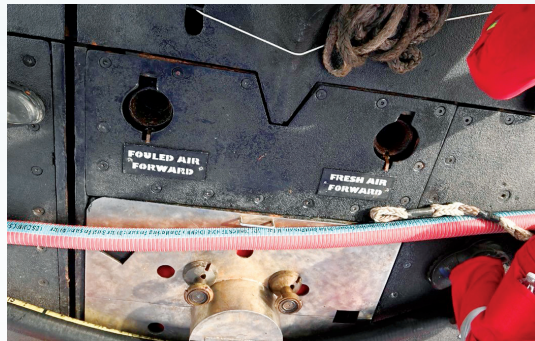
Evolusi *Dry Hook-Up* merupakan salah satu latihan dalam konteks *Submarine Escape and Rescue* (SMER) bagi menguji kesiapsiagaan *Distress Submarine Ventilation and Depressurisation System* (DSVDS) dan mengekalkan kompetensi kru kapal selam serta kapal penyelamat dalam menghadapi situasi kemalangan sebenar semasa di laut. Evolusi *Dry Hook-Up* Siri 1/23 telah dikendalikan oleh Bahagian Operasi dan Peperangan, Markas Pemerintahan Kapal Selam (MPKS) melibatkan platform KD TUNKU ABDUL RAHMAN (KD TAR) dan *Diving Support Vessel* MV MEGA BAKTI (MB). Evolusi ini telah dilaksanakan di Jeti Operasi MPKS pada 22 hingga 24 Nov 23.

Objektif evolusi ini adalah untuk menguji keupayaan DSVDS yang dibekalkan oleh Syarikat Target Mega Marine Sdn. Bhd didalam melatih kru kapal selam dan memastikan *Standard Operating Procedure* (SOP) *Dry Hook-Up* kekal relevan dengan perkembangan semasa. Manakala, konsep latihan pula telah dibahagikan kepada lima konsep, seperti *Open Dry Hook-Up (Forward Compartment)*, *Open Dry Hook-Up (Aft Compartment)*, *Close Dry Hook-Up (Forward Compartment)*, *Close Dry Hook-Up (Aft Compartment)* dan *Emergency Life Support Store* (ELSS) *Pod Posting*.

Pelaksanaan Evolusi *Dry Hook-Up* Siri 1/23 dimulakan dengan sesi perbincangan yang melibatkan wakil daripada MPKS, KD TAR dan MB di Bilik Taklimat MB pada 22 Nov 23 bagi menyemak SOP *Dry Hook-Up* dan menilai konsep evolusi selain menentukan komposisi kru di kapal selam berdasarkan lokasi evolusi. Kerjasama

daripada semua pihak amat penting bagi memastikan setiap latihan yang dirancang dapat mencapai objektif yang digariskan.

Latihan *Open Dry Hook-Up* dilaksanakan untuk memastikan keseluruhan DSVDS berfungsi dengan baik, di mana udara ke kapal dapat disalurkan dengan kadar aliran yang ditetapkan dan juga menentukan *Submarine Salvage and Crew Rescue Systems* melibatkan *fresh* dan *fouled air ventilation manifold* di kapal berada dalam keadaan baik. Latihan telah dilaksanakan secara berperingkat mengikut kadar aliran 50 *meter cube per hour* (m³/h), 80 m³/h dan 100 m³/h di kompartmen hadapan serta belakang dan didapati pengukuran kadar aliran pada setiap kompartmen di kapal menepati kriteria yang ditetapkan.



Kedudukan *Fresh* dan *Fouled Air Ventilation Valve* bagi Kompartmen Hadapan





Kru MB sedang memastikan hos daripada DSVDS telah dipasang dengan betul di kapal sebelum pelaksanaan evolusi

Evolusi telah diteruskan dengan Latihan *Close Dry Hook-Up* bagi setiap kompartmen yang dinyatakan secara berfasa. Sepanjang latihan ini berlangsung, KD TAR telah disimulasikan dalam keadaan *distress* di mana proses *ventilation*, *pressurisation* dan *depressurisation* telah dilakukan dengan menggunakan DSVDS yang ditempatkan di MB. Objektif latihan ini adalah untuk memastikan DSVDS berfungsi untuk meningkatkan atau mengurangkan tekanan di dalam kapal dengan kadar aliran udara seperti ditetapkan serta juga menilai data parameter udara merangkumi gas oksigen, gas karbon oksida dan gas hydrogen di dalam kapal semasa perubahan tekanan udara. Latihan ini juga telah dilaksanakan secara berperingkat di mana dimulakan dengan proses ventilasi dahulu tanpa memberi sebarang tekanan di kapal serta diteruskan dengan *pressurisation* dan *depressurisation* di dalam kapal secara berfasa antara 50 milibar (mbar) sehingga 150 mbar.



Evolusi diteruskan lagi dengan latihan terakhir iaitu *ELSS Pod Posting*. Objektif latihan ini adalah untuk memastikan pemindahan catuan dapat dilaksanakan dari luar ke dalam kapal melalui *Submarine Salvage and Crew Rescue Systems* melibatkan *Escape Trunk* serta menilai SOP yang dibangunkan. Pemindahan catuan telah dilaksanakan dengan jayanya dengan penambahbaikan beberapa tatacara pemindahan pada SOP yang telah dibangunkan.



Persiapan *Escape Trunk* sedang dilaksanakan sebelum memulakan latihan *ELSS Pod Posting*

Secara keseluruhan, Evolusi *Dry Hook-Up* Siri 1/23 telah dilaksanakan dengan selamat mengikut prosedur yang ditetapkan. Pada masa yang sama, tahap profesionalisme dan komitmen yang tinggi ditunjukkan oleh ketiga-tiga pihak membolehkan evolusi ini dilaksanakan dengan jayanya dan mencapai objektif yang digariskan. Evolusi sebegini akan diteruskan pada masa akan datang untuk membolehkan kru kapal selam serta kapal penyelamat sentiasa dapat mengekalkan kompetensi dan juga dapat memberi pendedahan kepada pelatih Kursus Kelayakan Kapal Selam yang sedang menjalani latihan di kapal. ②

Gambar pelaksanaan *pressurisation* di dalam kapal menggunakan DSVDS di kompartmen hadapan



Persiapan sebelum latihan penyelaman

1 Latihan WIRA HITAM (LWH) merupakan latihan melawan keganasan maritim di pelantar minyak atau gas milik Petroleum Nasional Berhad (PETRONAS) selain daripada Eksesais JERUNG EMAS yang telah diambil alih oleh Markas Angkatan Bersama (MK AB). Latihan WIRA HITAM hanya melibatkan anggota Pasukan Khas Laut (PASKAL) tanpa penglibatan agensi keselamatan yang lain. Markas Pemerintahan Pasukan Khas Laut (Mk PASKAL) telah diberikan mandat untuk mengkoordinasi LWH selaras dengan kelulusan yang diberikan sepertimana surat yang telah dikeluarkan oleh Markas Tentera Laut - Bahagian Operasi dan Strategi (MTL(N3).700-2/3/4 V3 - (17) bertarikh 11 Jun 21).

LATIHAN WIRA HITAM SIRI 15/24

Oleh Lt Kdr Muhammad Wafiy bin Nordin TLDM
- KD PANGLIMA HITAM

2 LWH siri 15/24 (LWH 15/24) melibatkan anggota dari KD PANGLIMA HITAM - Unit 1 PASKAL (KDPH) serta aset-aset bantuan dalam memberi sokongan latihan seperti berikut:

- KD TERENGGANU - Sebagai Kapal Induk.
- Cawangan Selam MAWILLA 1 - Pinjaman 2 *Man Chamber* bersama 2 x operator.
- Bahagian Logistik Markas Pemerintahan Armada Barat - Meluluskan permohonan kren bagi pemunggahan masuk dan keluar daripada kapal induk.
- Wakil Pengurusan Petroleum Nasional Berhad (PETRONAS) - Meluluskan penggunaan platform pelantar minyak untuk latihan penyelaman dan bantuan khidmat sepanjang pelaksanaan latihan.

3 Latihan penyelaman dirancang dilaksanakan di Platform PULAI A, Terengganu (Platform tidak aktif) mulai 24 hingga 26 Jan 2024. Namun, disebabkan keadaan laut yang agak bergelora dengan kod laut 3 dengan ketinggian ombak melebihi 2 meter menghadkan pelaksanaan latihan penyelaman di Platform PULAI A. Tim Pengurusan dari Platform TIONG A (Platform beroperasi) juga tidak dapat mengoperasikan bot bagi membawa anggota PASKAL dan staf terlibat untuk melaksanakan lawatan ke tapak dan taklimat keselamatan sebelum latihan.





Tim melaksanakan teknik hook and climb

4 LWH 15/24 telah diteruskan di Pulau Tioman dimana latihan penyelaman kompas berkumpul anggota penggempur PASKAL dilaksanakan di jeti TNB yang menyamai struktur platform pelantar minyak. Sebanyak enam kali penyelaman melibatkan penyelaman waktu siang dan malam telah berjaya dilaksanakan tanpa sebarang permasalahan kepada anggota dan peralatan.

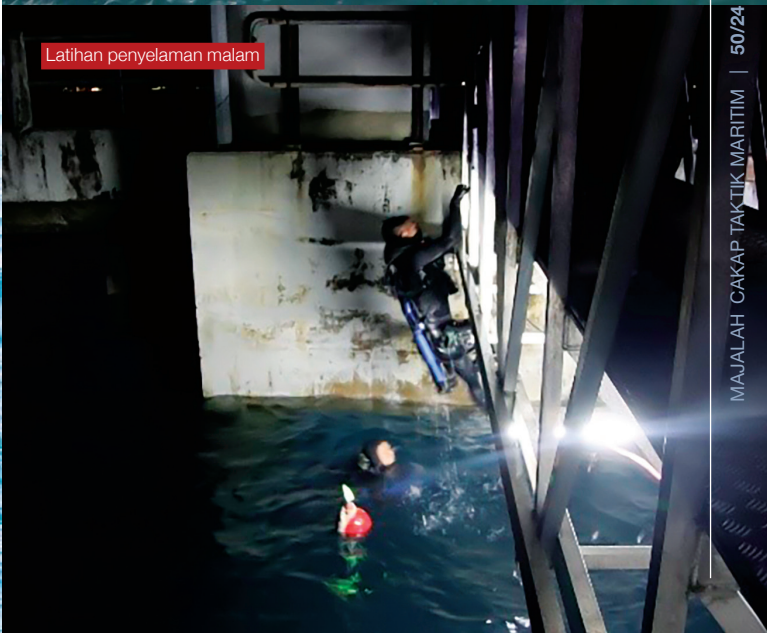
5 KD TERENGGANU telah meneruskan pelayaran balik ke Tambatan Pangkalan Kuantan (TPK) pada 270030H Jan 24 dan merapat di TPK pada 270930H Jan 24. Secara keseluruhannya LWH 15/24 telah dilaksanakan dengan baik dan mencapai objektif latihan yang ditetapkan. Tiada sebarang kemalangan terhadap anggota atau pun kehilangan peralatan sepanjang pelaksanaan LWH 15/24. 🚫



Pergerakan ke lokasi penyelaman



Latihan penyelaman siang



Latihan penyelaman malam



Tim selam terlibat dengan Latihan Baracudda di PL TSR.

CAWANGAN SELAM KEKALKAN KESIAPSIAGAAN MARKAS WILAYAH LAUT 2

Oleh Lt Amirul Fizri bin Abd Rahman TLDM - MAWILLA 2

Markas Wilayah Laut 2 (MAWILLA 2) yang terletak di Sandakan, Sabah menjadi salah satu markas yang penting dalam menjaga kedaulatan perairan pantai timur Sabah. Markas ini terdiri daripada beberapa unit merangkumi pangkalan dan kapal TLDM. Setiap unit ini berfungsi sebagai organisasi yang menjalankan tugas dan peranan masing-masing bagi menjamin keamanan dan keselamatan perairan Sandakan serta masyarakat setempat khususnya di daerah Sandakan. Cawangan Selam yang berada di bawah Bahagian Operasi (N3) adalah antara cawangan yang mempunyai peranan penting kepada kesiapsiagaan MAWILLA 2. Cawangan ini mempunyai kekuatan seramai 21 orang yang terdiri

daripada pegawai dan anggota berkepakaran Penyelam Ranjau (Clearance Diver) dan juga bantuan.

Cawangan Selam MAWILLA 2 bertanggungjawab melaksanakan 2 tugas teras iaitu Tim 1 (Deep Diving/Salvage) dan Tim 4 (Fleet Support). Kedua-dua tugas ini melibatkan operasi dan latihan yang berterusan sepanjang tahun memandangkan tugas sebagai Penyelam Ranjau memerlukan pegawai dan anggota khusus untuk sentiasa mengekalkan tahap



Majlis penyerahan RHIB penyelam di MAWILLA 2.

Sepanjang
tahun 2023,
cawangan ini telah
merekodkan sebanyak
204
pemeriksaan
bawah perut
kapal

kompetensi menyelam di tahap tertinggi. Tugasan Tim 1 adalah melaksanakan penyelaman melebihi 30 meter dan juga penimbunan (Salvage) sekiranya terdapat keperluan operasi dan latihan.

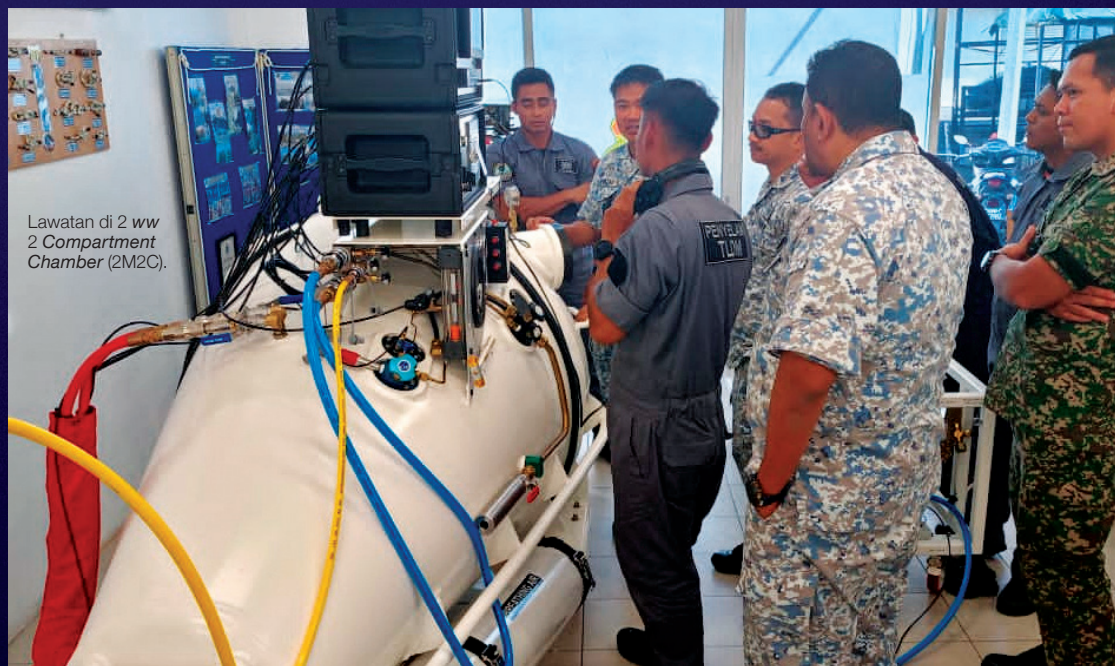
Berdasarkan sejarah lepas, Cawangan Selam MAWILLA 2 pernah terlibat dalam operasi melibatkan penimbunan (Salvage) aset agensi sabahat iaitu Markas Angkatan Bersama 2 (Mk ATB) yang karam di sekitar perairan Pulau Berhala pada 21 Februari 2023. Hal ini menunjukkan Cawangan Selam MAWILLA 2 juga berperanan dalam membantu agensi-agensi sahabat sekiranya terdapat keperluan.

Selain itu, Cawangan Selam MAWILLA 2 juga menjadi tunjang kepada kesiapsiagaan kapal-kapal MAWILLA 2 melalui tugas dan peranan Tim 4. Antara tugasan Tim 4 adalah melaksanakan pemeriksaan bawah perut kapal kepada kapal-kapal TLDM yang selesai menjalankan operasi di laut. Pemeriksaan ini dilaksanakan bagi mengenal pasti kerosakan yang boleh menjejaskan pengoperasian kapal sekiranya menjalankan operasi seterusnya.

Sepanjang tahun 2023, cawangan ini telah merekodkan sebanyak 204 pemeriksaan bawah perut kapal dan jumlah ini membuktikan fungsi dan peranan Cawangan Selam MAWILLA 2 dalam memastikan kesiapsiagaan kapal-kapal TLDM berada di tahap tertinggi.

Pada tahun Februari 2023, Cawangan Selam MAWILLA 2 telah menerima satu bot baharu iaitu *Rigid Hull Inflatable Boat* (RHIB) 003 yang berperanan sebagai aset sokongan untuk melaksanakan operasi dan latihan menyelam. Perolehan bot baharu ini telah menambah jumlah aset sedia ada iaitu RHIB CERDAS dan *Assault Boat*. Selain dari itu, Cawangan Selam MAWILLA 2 juga menerima kebuk mampatan yang baharu iaitu 2 *Men 2 Compartment Chamber* (2M2C) pada September 2023. Kebuk mampatan ini berperanan sebagai *transportable chamber* sekiranya operasi atau latihan *Deep Diving* dilaksanakan di luar pangkalan. Cawangan ini juga turut mempunyai peralatan sokongan iaitu 1 *Man Chamber* dan 10 *Men 2 Compartment Chamber* (10M2C). Peralatan sokongan ini berperanan membantu dalam memberikan perkhidmatan rawatan penyakit penyelam menggunakan kebuk mampatan apabila diperlukan.

Cawangan Selam MAWILLA 2 secara optimisnya mampu melaksanakan operasi dan latihan pada tahap sederhana. Namun, perolehan peralatan dan aset baharu secara berperingkat melalui Rancangan Perolehan (RP) pada masa hadapan secara tidak langsung akan memantapkan lagi aspek kemahiran anggota dan kemodenan peralatan bagi memastikan Cawangan Selam akan terus menjadi tunjang kepada MAWILLA 2 dalam peranannya menjaga kedaulatan dan keselamatan negeri Sabah. 🇲🇾



Lawatan di 2 ww
2 Compartment
Chamber (2M2C).



THE READINESS OF AIR TRAFFIC CONTROLLERS AS THE “EYES” OF THE RMN IN THE AIR

By Lt Muhammad Aiman Riezal bin Naziri RMAF - KD RAJAWALI

Top of Form

The Royal Malaysian Navy Air Unit, led by Vice Admiral Tan Sri Abdul Wahab bin Haji Nawī, began its development in 1985 with the training of nine pilots. In late 1987, the Navy acquired six used Westland WASP Helicopter Anti-Submarine (HAS) MK 1 aircraft from the Royal Navy of Britain.

The unit was formally called KD RAJAWALI by Admiral Tan Sri Abdul Wahab bin Haji Nawī on May 11, 1990. KD RAJAWALI was instrumental in operations, drills, and humanitarian missions during its tenure, helping to advance the Navy's capabilities. In an effort to enhance KD RAJAWALI's operational responsibilities, the WASP helicopter service was discontinued in December 2001 and was replaced by six Super Lynx helicopters for Squadron 501 and six Fennec helicopters for Squadron 502. To further improve its capabilities, KD RAJAWALI also offered air traffic control services, which were carried out by skilled members of the Royal Military Air Force.

Lumut Aerodrome, WMLH, stands as a crucial military heliport, primarily serving the Royal Malaysian Navy (RMN) helicopters and facilitating various other military helicopter operations. Under the competent

leadership of a Commander Officer and Senior Air Traffic Officer (Major RMAF), the aerodrome ensures the seamless and efficient functioning of its control tower, adhering to relevant provisions and protocols.

At the helm of Lumut Aerodrome's air traffic control operations, the Senior Air Traffic Officer and Flight Officer play pivotal roles in directing the work of other ATC personnel under their charge. Their leadership ensures that all team members are aligned with operational objectives, maintaining a cohesive and synchronized approach to managing air traffic within the aerodrome's jurisdiction.

Air Traffic Officers are tasked with overseeing the maintenance and availability of all technical equipment, publications, and facilities essential for air traffic control operations. Their meticulous attention to detail ensures that the aerodrome's infrastructure remains in optimal condition, facilitating smooth and safe operations. They also play a crucial role in emergency situations by facilitating communication with pertinent authorities and executing reporting protocols. Their prompt and resolute actions are vital in guaranteeing efficient responses to emergency circumstances and protecting people and property under the aerodrome's jurisdiction.

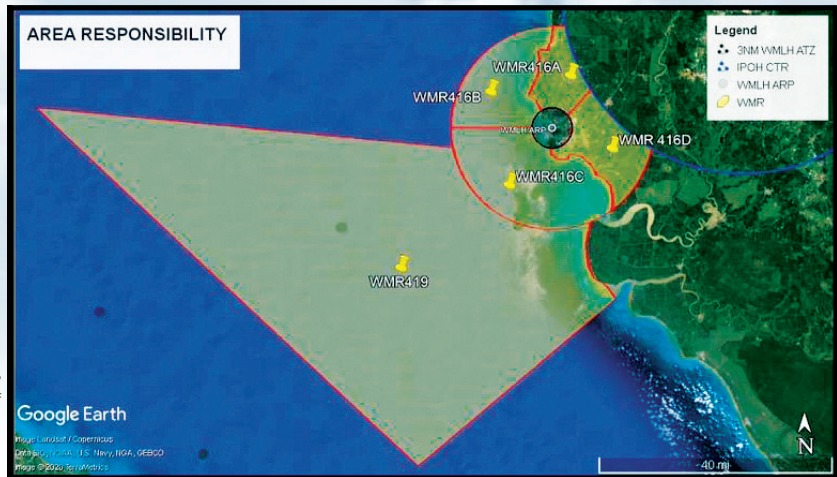


Figure 1 show the area of responsibility.

Furthermore, the Air Traffic Officer also holds the responsibility of issuing a Notice to Airmen (NOTAM) and informing users of the airspace about any temporary or permanent modifications to aeronautical facilities, services, procedures, or risks. Their proactive approach to NOTAM management enhances situational awareness and promotes aviation safety within the airspace.

Lumut Aerodrome, situated along Malaysia's captivating coastline, serves as a vital nerve center for military aviation operations, predominantly catering to the Royal Malaysian Navy (RMN) helicopters and other military aircraft. Its strategic significance is underscored by its classification as Class C airspace, emblematic of its pivotal role in the region's airspace management.

Within the confines of Lumut Aerodrome lies the Lumut Air Traffic Zone (ATZ), encompassing a 3 NM radius centered on the Aerodrome Reference Point (ARP), extending from ground/sea level to 3000 ft Above Mean Sea Level (AMSL). Lumut Aerodrome Control, serving as the authoritative body, orchestrates all air traffic operations, providing essential services such as Aerodrome Control, Flight Information Service, and Alerting Service.



Infrastructure-wise, Lumut Aerodrome boasts a well-engineered taxiway network comprising Northern and Southern taxiways, facilitating the seamless movement of aircraft to and from the main helipad and dispersal areas. The main helipad, with dimensions of 40 m x 40 m and a concrete pavement surface, serves as the focal point for flight operations, accentuated by a conspicuous 'HOTEL' marker for enhanced visibility. Additionally, a grass strip offers an alternative landing option, ensuring operational flexibility during both day (0800H to 1700H) and night (Monday, Tuesday, and Wednesday) operations.

Night operations at Lumut Aerodrome are facilitated by permanent electrical airfield lighting systems, meticulously controlled from the tower. From the main helipad edge lights to taxiway lights and dispersal floodlights, every aspect of the aerodrome is meticulously illuminated to ensure safe and efficient operations, even under low-light conditions.

Beyond its operational purview, Lumut Aerodrome extends its influence into designated training areas, catering to the multifaceted needs of RMN helicopter pilots. These training zones provide an optimal environment for honing essential skills, under the vigilant supervision of air traffic controllers.

In summation, Lumut Aerodrome, under the competent leadership of its Commander Officer and Senior Air Traffic Officer, stands as a beacon of military aviation excellence. Their dedication to ensuring efficient control tower operations, effective personnel management, infrastructure maintenance, emergency preparedness, and NOTAM management underscores the aerodrome's commitment to safety and operational excellence in supporting military helicopter operations. Its strategic location, state-of-the-art facilities, and unwavering commitment to excellence underscore its status as a cornerstone of Malaysia's aerial defense capabilities. 🚁

THE ROYAL MALAYSIAN NAVY'S AGING HELICOPTER FLEET AND FLEET REQUIREMENTS

By Lt Mohammad Faiz bin Razali RMN - SKN 501

The Royal Malaysian Navy (RMN) stands as a guardian of Malaysia's maritime interests, ensuring the security and stability of its extensive coastline. However, an operational challenge looms large – the aging helicopter fleet. As these rotary-wing aircraft form an integral part of naval operations, it is imperative to address the evolving fleet requirements to maintain an effective maritime defense posture.

The RMN's helicopter fleet, including the Super Lynx MK100 and AS 555SN, has been a stalwart companion in maritime surveillance, search and rescue missions, and anti-submarine warfare for decades. Yet, the passage of time brings with it challenges that demand strategic attention.

Aging helicopters, having weathered countless operational hours, demand increased maintenance. Spare parts for these older models may become scarce, leading to prolonged maintenance cycles, elevated operational costs, and potential downtimes.

The relentless march of aviation technology has birthed more advanced and capable helicopter models. The aging fleet, however, risks falling behind in terms of avionics, communication systems, and mission capabilities, limiting its effectiveness in contemporary naval operations.

With limitations in endurance, range, and payload capacity compared to newer counterparts, aging helicopters may struggle to meet the demands of extended surveillance missions and deploy sophisticated anti-submarine warfare systems, potentially compromising operational flexibility.



The RMN faces the challenge of maintaining operational effectiveness while ensuring the aging helicopter fleet aligns with modern fleet requirements. Strategic steps can pave the way forward.

A targeted modernization initiative is paramount for upgrading existing helicopters. This involves integrating modern avionics, communication systems, and mission equipment to enhance operational capabilities and align with contemporary standards.

Implementing routine and comprehensive maintenance overhauls is crucial. This approach involves systematic inspection, repair, and upgrading of components to extend the operational life of aging helicopters while ensuring they meet safety and performance standards.

Introducing newer helicopter models with advanced capabilities is key to overcoming the limitations of aging aircraft. Integrating modern helicopters into the fleet improves operational range, payload capacity, and overall mission effectiveness.

Collaborating with industry partners, both domestic and international, offers an opportunity to access the expertise, technology, and resources needed for effective modernization and maintenance. Joint ventures and technology transfer programs can contribute to building domestic capabilities.

Ensuring the skilled operation and maintenance of modernized or new helicopter models is vital. Continuous training programs should be established to ensure RMN personnel are kept updated on technological advancements and operational procedures, maximizing the benefits of fleet modernization.

The Royal Malaysian Navy faces a pivotal moment in ensuring the continued effectiveness of its helicopter fleet. By embracing modernization initiatives, scheduled maintenance overhauls, and the integration of newer models, the RMN can meet evolving fleet requirements. Collaborative efforts with industry partners, coupled with a strong focus on training and skill development, will position the RMN to successfully navigate the complexities of an aging helicopter fleet. In doing so, Malaysia's maritime defense capabilities will be preserved and enhanced, reinforcing its commitment to maritime security and regional stability. 



