

Tuesday, May 20, 2025

THE OFFICIAL SHOW DAILY

Welcome To Langkawi! LIMA'25 Opens With Aerial Display, Flypast



By The ADJ Team

THE largest aerospace and maritime display in the Asia Pacific region and the only remaining show of its kind in the world – the 17th Langkawi International Maritime and Aerospace Exhibition 2025 (LIMA'25) takes centre stage today with a blast amid aerial displays and a flypast by aircraft of the Royal Malaysian Air Force.

Once again, host country Malaysia's unique maritime and aerospace exposition is back here attracting an impressive array of systems and equipment for display from major international

companies from around the globe. The unique themed "Innovate Today, Thrive Tomorrow" runs from today until May 24.

LIMA'25, mainly staged at the Mahsuri International Exhibition Centre Hall beside the Langkawi International Airport and Resorts World Langkawi, will host about 600 exhibitors from 25 countries, and is expected to draw about 400,000 tourists to the island.

For the fleet review, a total of 34 ships will be anchored in position, including 15 from the Royal Malaysian Navy (TLDM), five from the Malaysian Maritime Enforcement Agency (MMEA), and 15 ships from foreign naval forces.

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BAE Systems' 'Innovative New Approaches' To Strengthen Supply Chain Resilience For UK, Allies

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Comprehensive Maritime Solution By Aselsan

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Visit **ADJ** booth A012. For LIMA 2025 ADJ Today online, visit www.adj.com.my

INSIDE...
Show Floor Plan

TIMELESS TECHNOLOGY LIMITLESS POTENTIAL



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30 MM REMOTE CONTROLLED
STABILIZED NAVAL GUN SYSTEM

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LIMA'25 is one of the premier maritime and aerospace exhibitions in the Asia-Pacific region, attracting exhibitors, government representatives and trade visitors from around the world. Being present at LIMA'25 would also significantly boost the companies' chances of making their presence felt and getting future deals in neighbouring countries in the Southeast Asian region whose defence spending is still growing despite some programmes in certain countries being delayed. One of the key highlights of LIMA'25 is the large presence of VIP delegates – both ministerial and military officials.

LIMA'25 will feature an impressive lineup of activities, including live air shows, maritime demonstrations, static displays and industry seminars. It is an excellent opportunity for networking, exploring the latest technological advancements, and building business connections in the aerospace and maritime sectors.

The airshow has always been the most exciting part of the Langkawi show. This event features breathtaking aerobatic displays by some of the world's most advanced fighter jets and aircraft. The show is set to deliver one of its most fascinating displays yet, with more than 100 aircraft scheduled for participation and 35 naval vessels confirmed.

LIMA'25 show organisers, Global Exhibitions and Conferences SdnBhd (GEC) said 64 aircraft are taking part in aerial demonstrations, including aerobatic displays, solo performances and the event's hallmark opening, a coordinated flypast with

flares, explosions and all. Highlights of the airshow include performances by renowned international aerobatic teams, including the Russian Knights from Russia, Jupiter from Indonesia and Surya Kiran from India. The organisers said about 40 aircraft are on static display.

A Royal Malaysian Air Force (RMAF) Sukhoi SU-30MKM adorned in a striking "Jalur Gemilang" – name of the Malaysian flag – livery will be part of the aerial flypast and aerobatic manoeuvres from today. Featuring a vivid red, white, blue and yellow colour scheme inspired by the national flag, the jet made an impression both in the skies and online, with many Malaysians expressing pride and admiration at the powerful display of national identity on a military platform.

As expected, a show of force between the major in the aerospace world and military might and technology is obviously present amid the ongoing power rivalry amongst them. This reportedly include a "scheduled" US Air Force B-52 high altitude flyby, followed by a formation of US Navy F/A-18E/F Super Hornets. A fifth -generation fighter showdown is also evident with the Russian Sukhoi Su-57 Felon in the mix with the American F-22 Raptor and the F-35 Lightning II fighters.

LIMA is one of the largest exhibitions in the maritime and aerospace industry in South-East Asia since it was first held in 1991. This year's exhibition iteration will spotlight seven key segments: Defence, Trade, Space, Cruise, Innovation, Sustainability and Education.

Finally, when it comes to meetings, conventions, exhibitions and special events,

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the LIMA exposition is a destination that delivers both serious business and fun. This beautiful archipelago in northern Malaysia's Kedah state is among the best tropical paradise one can find in the region. Selamat Datang ke Langkawi! ♦

Cutting-Edge Solutions By MBDA

MBDA, Europe's premier missile systems manufacturer, has some of the latest advancements in naval defence technology, underscoring its commitment to enhancing naval defence capabilities through advanced technology and international collaboration. Building on recent unveilings, MBDA's portfolio reflects a strategic focus on enhancing maritime security through innovation and collaboration. With a strong commitment to innovation and collaboration, the firm serves as a key partner to numerous NATO and allied naval forces, delivering cutting-edge solutions to address evolving security challenges.

Exocet SM40: Next-Generation Submarine-Launched Missile

At the recent Euronaval 2024, MBDA introduced the Exocet SM40, a submarine-launched anti-ship missile that significantly enhances the capabilities of its predecessor, the SM39. The SM40 incorporates advancements from the MM40 Block 3C, including a turbojet propulsion system and a J-band active coherent seeker, effectively doubling its range and improving target discrimination in complex electronic warfare environments. The unveiling of Exocet SM40

provides an upgrade path for a number of Asian navies who are current users of the Exocet SM39.

TESEO Mk2/E: Versatile Long-Range Strike Capability

Developed to meet the Italian Navy's requirements, the TESEO Mk2/E missile offers both anti-ship and land-attack capabilities. Equipped with a dual-mode seeker and a two-way data link, it allows for real-time target updates and mission flexibility. With a range exceeding 350km, the TESEO Mk2/E provides a strategic advantage in various operational scenarios.

Sea Warden: Comprehensive Defence Against Uncrewed Threats

Addressing the growing concern of uncrewed aerial and surface threats, MBDA's Sea Warden system offers a modular and scalable solution for naval platforms. Integrating a suite of sensors and effectors, including radar, electro-optical cameras, and directed energy weapons, Sea Warden provides full-spectrum protection against UAVs and USVs. Its open architecture ensures adaptability to evolving threats and seamless integration with existing ship systems.

Future FC/ASW Programme: Collaborative Innovation

In collaboration with France, the United Kingdom and Italy, MBDA is advancing the Future Cruise/Anti-Ship Weapon (FC/ASW) programme. This initiative aims to develop next-generation missiles capable of penetrating advanced defences. Two prototypes are in development: the TP15, a subsonic, low-observable missile optimised for land-attack missions, and the RJ10, a supersonic, highly manoeuvrable missile designed for anti-ship and suppression of enemy air defences.

Laser Weapon Development: Cost-Effective Defence Solutions

MBDA, in partnership with Rheinmetall, is exploring the development of maritime laser weapons as a cost-effective alternative to traditional missile systems. These directed energy weapons aim to provide efficient defence against drone threats, offering a low-cost per engagement solution. The collaboration has already demonstrated successful test firings aboard naval vessels, indicating promising potential for future deployment. ♦

AW149: Multi-Mission Performance



MILITARY helicopters must be equipped to perform the most demanding battlefield missions in the harshest environments. The AW149 is a latest-generation medium multi-role military helicopter that delivers the highly effective and survivable capability required by today's armed forces, combining advanced technologies, equipment and weapons with unparalleled safety and performance characteristics.

The AW149 is optimised for a multitude of battlefield missions such as troop transport and re-supply/external load lift; medical

and casualty evacuation; Search and Rescue (SAR) and Personnel Recovery; special forces operations; close air support/armed escort; Command and Control (C2); and Intelligence, Surveillance and Reconnaissance (ISR).

The AW149 blends performance, lower life-cycle costs and day/night all-weather capability in a single platform. The large, rapidly reconfigurable cabin can accommodate a wide range of role equipment and weapon systems to enhance operational effectiveness and survivability

on the battlefield.

The advanced open architecture mission system enables the quick and effective integration of mission-specific and customer-specific equipment, avionics, weapons and defence systems. The helicopter is day/night capable with a single pilot Night Vision Goggle (NVG) compatible, low workload glass cockpit.

The AW149 ensures unparalleled crew safety. Contributing to its superior battle survivability are high levels of ballistic tolerance of the blades, airframe and components, crashworthy fuselage and seats, energy-absorbing landing gear and structure. The main gearbox has a 50-minute dry run capability, while the helicopter also features self-sealing fuel tanks, a fully integrated defensive aids suite along with additional armour protection.

The spacious, unobstructed cabin and large sliding doors on both sides enable the rapid transport of heavily laden troops and mission equipment in support of high-tempo operations. The large sliding doors support fast roping and hoist operations, enabling troop insertion and extraction on the hover while allowing simultaneous cover fire from window-mounted machine guns. A large equipment stowage area for stretchers and medical kit can be accessed optionally from the cabin.

The AW149's success has rapidly grown in the world market in recent years and is in service and in production to meet a range of demanding needs. The type is supported by a range of technical services and training solutions, tailored to customer's requirements. ♦♦



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Roketsan Showcase High-Tech Defence Systems

ROKETSAN, Türkiye's flag carrier in rocket and missile technologies on the global stage, is participating in the Langkawi International Maritime and Aerospace Exhibition 2025 (LIMA'25) in Malaysia with its cutting-edge defence systems, aiming to expand partnerships across Southeast Asia.

As one of the region's most prestigious defence events, LIMA'25 is being held from May 20 to 24, bringing together companies and visitors from around the world for its 17th edition on Langkawi Island. Roketsan, ranked among the world's top 100 defence companies with its success in missile, rocket and munition technologies, is showcasing a broad portfolio ranging from UCAV munitions to anti-tank systems, cruise missiles and air defence solutions, with the goal of forging new collaborations in the region.

Commenting on their participation, Roketsan CEO Murat İkinci said: "As a company that designs, develops and manufactures a full spectrum of rocket, missile and munition technologies required by modern armed forces, we are proud to present our standout systems to our Southeast Asian partners at LIMA'25.

Hosted by Malaysia – one of Türkiye's most important allies in the region – we aim, as in previous years, to hold productive meetings and open the door to new partnerships at LIMA'25.

Roketsan is making a significant impression in Malaysia through its LIMA'25 participation with its cutting-edge defence systems. The company is exhibiting a wide range of solutions including MAM-L, MAM-T IIR from its UCAV munitions family and UAV-230 air-to-surface ballistic supersonic missile; CIRIT laser-guided missile, KARAOK short-range anti-tank missile, L-OMTAS laser guided medium range anti-tank missile system, UMTAS-GM long range anti-tank missile system, and L-UMTAS laser guided long range anti-tank missile system from its anti-tank systems portfolio; and ATMACA anti-ship missile, ÇAKIR cruise missile and stand-off missile (SOM) offerings.

Roketsan is also showcasing SUNGUR air defence missile, HISAR-A RF and HISAR-O RF air defence missiles, the SIPER long-range air and missile defence system, and the National Vertical Launcher System (MIDLAS). Additionally, TEBER guidance kit,



ORKA next-generation lightweight torpedo, and the BURC air defence missile system stand out among the innovative solutions exhibited at the Roketsan booth. ♦

Commitment To Malaysia Stronger Than Ever – Airbus



AIRBUS is showcasing a static display of an A400M from the German Luftwaffe and another A400M from the Royal Malaysian Air Force (RMAF), as well as the luxurious ACH160 corporate helicopter. Meanwhile, two additional RMAF A400Ms are taking part in a flying display, highlighting the



aircraft's capabilities. At Airbus' stand B-16 are scale models of the A220, A400M, H225M, Pleiades Neo Earth Observation satellite, Zephyr high-altitude platform station (HAPS), and the Flexrotor uncrewed aerial system (UAS).

Airbus Asia-Pacific president Anand

Stanley said: "Our commitment to Malaysia is stronger than ever. We are proud to support the country's economic development, defence priorities and sustainability ambitions through long-term partnerships, local investment and high-value job creation." ♦

Strength through partnership

baesystems.com



Kongsberg, BAE Systems Agreement For Closer Collaboration

KONGSBERG Defence & Aerospace and BAE Systems have entered a cooperation agreement aimed at fostering further close industrial collaboration to support the defence requirements of Norway, the United Kingdom and other allied countries. The agreement was signed onboard HMS St Albans in Oslo, on May 9.

"This agreement enables us to build on the successful partnerships between Kongsberg and BAE Systems and between our two nations' industries. It further strengthens our ability to offer advanced maritime capability to the Norwegian and UK militaries," said Kongsberg Defence & Aerospace president Eirik Lie.

BAE Systems chief executive Charles Woodburn said: "We have worked together with Kongsberg for more than 80 years, which reflects the strong relationship between the UK and Norway, built over decades of cooperation as close allies and friends. This agreement brings together a number of areas in which our companies are already collaborating and further enhances our ability to deliver advanced defence capabilities for current and future Norwegian and UK armed forces."

The Norwegian Ministry of Defence in 2024 selected the UK as one of four countries for discussions about a potential strategic partnership for deliveries of new frigates to

replace the Royal Norwegian Navy's current Fridtjof Nansen-class. Through industrial cooperation and a partnership approach, the two companies can provide a foundation for job creation, technology transfer and investment to benefit national and international markets. Under the terms of the specific agreement, the two companies will seek to explore long-term cooperation in existing and future joint programmes across all military domains. These may include the Vanguard vessel system, a strategic partnership for through-life support for the new frigates, strike missiles, maritime surveillance and targeting and ship system deliveries to both nations' frigates. ♦

Aselsan Complete World's Most Comprehensive Meko-Class Frigate Modernisation

ASELSAN, Türkiye's leading defence company, has set a new benchmark in naval platform modernisation through the successful completion of the temporary acceptance of the Barbaros-Class Frigates Mid-Life Upgrade (Barbaros-MLU) Project, recognised as the world's most comprehensive Meko-class frigate modernisation initiative. Launched by the Turkish Presidency of Defence Industries, the Barbaros-MLU Project aims to enhance the capabilities of the Barbaros-Class Frigates, which serve as a vital component of the Turkish Naval Forces' defense strategy.

With a comprehensive combat system integration solution tailored to the specific needs of the Turkish Naval Forces, a total of 21 systems onboard TCG Orucreis have been renewed under Aselsan's main contractorship. Among the notable advancements brought are radar, electronic warfare, integrated combat and satellite communication, electro-optic, weapon and fire control, underwater and navigation support systems; which significantly enhance the operational capabilities of TCG Orucreis.

In addition to modernising weapon and electronic systems, Aselsan undertook extensive redesign work, including main mast modifications, above and below deck arrangement activities, and various analyses related to marine stability, HVAC systems, power distribution and electromagnetic compatibility.

Aselsan president and CEO Ahmet Akyol emphasised the significance of this



accomplishment, stating: "We are proud to complete the world's most comprehensive Meko-class frigate modernisation by renewing the 21 systems on TCG Orucreis with our advanced naval solutions. Drawing on this extensive experience, Aselsan is capable of addressing the needs of all navies, with its innovative and effective naval systems gaining worldwide recognition. We will continue to provide the most advanced systems to our Navy and the navies of allied countries."

The Aselsan systems on TCG Orucreis are:

Radar Systems:

- AKREP fire control radar
- CENK 3D surveillance radar

Electronic Warfare Systems:

- ARES NEWS central management system
- AREAS electronic countermeasure system
- ARES electronic support system
- KARTACA-N chaff/decoy launching system

Communication Systems:

- GEMS integrated naval communication

system

- TUMSIS X-band satellite communication system
- IdentIFF mode 5 identification friend or foe system

Electro-Optic Systems:

- LIAS laser warning receiver system
- PIRI infrared search and track system
- MARTI electro-optical reconnaissance and surveillance system
- Weapon Systems:
- SMASH remote-controlled stabilised gun system
- GOKDENIZ close-in weapon system (CIWS)

Fire Control Systems:

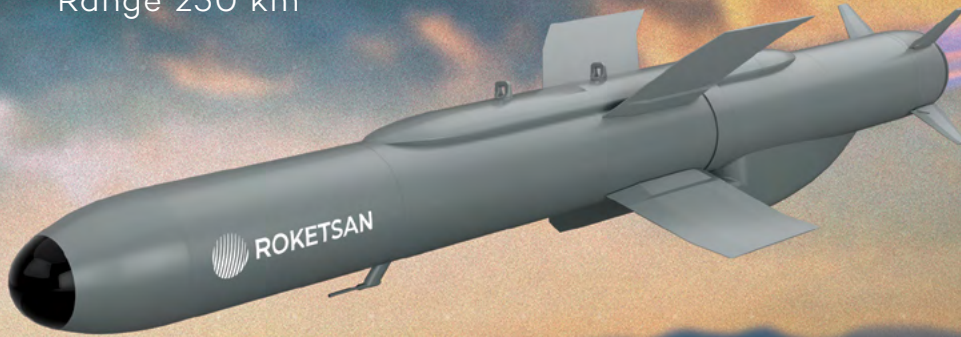
- ATMACA fire control system
- TAKS gun fire control system
- Underwater Systems:
- FERSAH hull-mounted ASW sonar
- HIZIR torpedo countermeasure system
- Navigation Systems:
- MITOS WECDIS
- KULAC echo sounder system
- ANS inertial navigation systems. ♦

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LIMA'25
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ATMACA
Range 250 km



ÇAKIR
Range 100 km (150 km UAV)



ÇAKIR
WEAPON SYSTEM



ATMACA
WEAPON SYSTEM

Roketsan: Strengthening Defence Partnerships In Southeast Asia

AS one of Türkiye's premier defence technology companies, Roketsan continues to expand its presence across Southeast Asia, offering a wide portfolio of advanced guided weapon systems, rockets, missiles and space technologies. With a reputation built on innovation, battlefield-proven solutions, and strong international collaborations, Roketsan is positioning itself as a strategic partner to nations seeking to modernise their armed forces.

On the sideline of the Langkawi International Maritime and Aerospace Exhibition 2025 (LIMA'25), *Asian Defence Journal* speaks with Roketsan **CEO Murat İkinci** to gain insights into the company's regional objectives, technological innovations and key offerings being showcased at this year's event. As maritime and aerospace security remain priorities in the Indo-Pacific, Roketsan's solutions are drawing increasing interest from regional defence planners.

ADJ: What are Roketsan's key highlights and technologies being showcased at LIMA'25, and what message is the company bringing to the Southeast Asian defence community?

CEO: Türkiye and Malaysia's relations have continued to strengthen with each passing year, driven by the long-standing friendship between the two countries. This positive trajectory has also gained significant momentum in the field of defence industry cooperation.

When evaluating the region's geostrategic landscape and recent geopolitical developments, it becomes evident that naval defence operations play a critical role in Southeast Asia. In this context, as Roketsan, we provide effective solutions to the essential defence needs of friendly nations like Malaysia through our advanced technology products.

Roketsan also offers cutting-edge, combat-proven solutions that enhance maritime and coastal security. We are committed to fostering long-term partnerships, supporting regional defence modernisation, and collaborating with local industries to build sustainable, high-value defence capabilities.

At LIMA'25, Roketsan will showcase its latest advancements in naval and coastal defence capabilities, including the ATMACA anti-ship missile, the ÇAKIR cruise missile, the MIDLAS vertical launch system, the LEVENT close-in weapon system, and the BARBAROS shore-based defence system.

ADJ: How important is Southeast Asia to Roketsan's global strategy, and are there ongoing or planned collaborations with Malaysia or other countries in the region? Can you comment on the recent news of Roketsan's collaboration with Indonesia?

CEO: Southeast Asia holds a central place in Roketsan's global strategy. The region's

commitment to defence modernisation, its emphasis on strengthening local industries, and its growing focus on maritime and air defence solutions align closely with Roketsan's capabilities and vision.

We are actively expanding our collaborations across the region, including with Malaysia, where we see strong potential for cooperation in missile systems, air defence and naval solutions.

Regarding Indonesia, we are proud of the significant progress we have made. Roketsan has established key agreements with Indonesian partners covering the ATMACA anti-ship missile, the ÇAKIR cruise missile, the SUNGUR air defence system, and MAM smart munition family. Additionally, we are working closely with Indonesian shipyards on integrating our MIDLAS vertical launch system and ATMACA weapon systems onto naval platforms. These partnerships reflect our commitment to supporting Indonesia's defence modernisation through technology transfer, local production and long-term cooperation.

ADJ: Can you elaborate on Roketsan's missile and guided weapon systems suited for naval and air platforms, particularly those relevant to maritime-centric nations like much of Southeast Asia?

CEO: Roketsan offers a comprehensive portfolio of missile and guided weapon systems that are ideally suited for maritime-centric nations, such as those in Southeast Asia.

For naval platforms, our flagship ATMACA anti-ship missile provides long-range, precision strike capability against surface targets, while the ÇAKIR cruise missile offers flexible deployment options from ships, coastal batteries and aircraft. Our MIDLAS vertical launch system enables domestically built ships to deploy a variety of missiles, offering enhanced flexibility and operational independence.

For coastal defence, the newly developed BARBAROS shore-based defence system delivers robust land-based anti-ship capabilities, providing an additional layer of security for critical maritime domains.

For air platforms, Roketsan's MAM family of smart munitions – including MAM-C, MAM-L and MAM-T – are combat-proven solutions designed for UAVs, helicopters and light attack aircraft, delivering precision strikes with minimal collateral damage.

Additionally, our new LEVENT close-in weapon system is designed to protect naval platforms against aerial threats such as missiles, drones and aircraft – a crucial capability in today's maritime security environment.

With these integrated solutions, Roketsan stands ready to support the defence needs of Southeast Asian nations, enhancing naval strength, coastal defence and aerial superiority.



ADJ: How open is Roketsan to technology transfer and local production partnerships in the context of Southeast Asia's defence industrialisation goals?

CEO: Technology transfer and local production partnerships are key pillars of Roketsan's international strategy – particularly in regions like Southeast Asia, where defence industrialisation is a national priority.

We are fully committed to structured, mutually beneficial cooperation models that encompass technology sharing, local assembly, co-production, and joint development initiatives. Our ongoing collaborations in Indonesia serve as a clear example of this commitment, with Roketsan actively supporting local integration efforts involving naval platforms and guided weapon systems.

We believe that sustainable partnerships are founded not only on product delivery but also on capacity building, skills transfer and long-term industrial cooperation. Roketsan stands ready to tailor its solutions to meet the specific defence and industrial development objectives of each Southeast Asian partner.

ADJ: Looking ahead, what are Roketsan's strategic priorities in this region, and how does the company plan to remain competitive and relevant in the evolving Indo-Pacific defence landscape?

CEO: Roketsan's strategic priorities in Southeast Asia and the broader Indo-Pacific region are clear: strengthening long-term partnerships, expanding technology transfer and local production initiatives, and delivering cutting-edge, mission-ready solutions tailored to the region's evolving security needs.

To remain competitive and relevant, Roketsan continuously invests in advanced technologies such as smart munitions, next-generation missile systems, naval and coastal defence solutions, and integrated air defence systems. We are also committed to being agile, responsive and collaborative – adapting our solutions to meet the operational and industrial priorities of each partner nation.

Our approach is not merely to deliver products, but to cultivate value-driven, sustainable defence partnerships that contribute to regional security and long-term industrial growth. ♦

NH 90

SAVING LIVES
PROTECTING HEROES

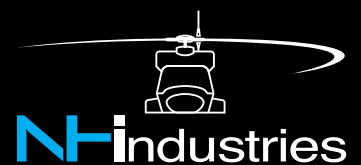


NH90 NFH

The NATO Frigate Helicopter (NFH) is a state-of-the-art primary weapon system designed to defend surface fleets. Operating from ships as part of an integrated mission system, the NH90 enables autonomous and joint ASW, ASuW, SAR, and C-SAR operations.



nhindustries.com



MMEA Director-General

THE Malaysian Maritime Enforcement Agency (MMEA) Director-General, Admiral (Maritime) **Mohd Rosli Abdullah**, replies to the *Asian Defence Journal's* questions on force-modernisation efforts and other related developments.

ADJ: Maritime crimes such as smuggling, illegal fishing, and human trafficking remain persistent challenges. How is the MMEA addressing these threats?

D-G: MMEA is currently planning to expand the deployment of advanced surveillance technology equipped with high-tech radar and high-definition video recorders. The development of the Maritime Surveillance System (SWASLA), integrated with cutting-edge radar technology and key components such as optronic cameras and sensors, will be extended to critical areas to enhance the accuracy and effectiveness of real-time monitoring. The installation of SWASLA radar systems at strategic locations will strengthen surveillance coverage in high-risk zones, which are hotspots for criminal activities such as drug smuggling, human trafficking, and contraband smuggling.

Additionally, the use of drones and Unmanned Aerial Vehicles (UAVs) will enhance surveillance in hard-to-reach maritime areas, providing greater flexibility and effectiveness in long-range monitoring while bolstering Search and Rescue (SAR) operations. With the government's planned procurement for MMEA, the agency will be able to further strengthen its operational capabilities in maritime law enforcement, safeguard national

waters and conduct humanitarian and rescue missions more efficiently.

The acquisition of several Offshore Patrol Vessels (OPVs) equipped with helicopter landing capabilities will significantly increase MMEA's operational presence at sea. These OPVs will not only enhance patrolling efforts within Malaysia's Maritime Zone but also extend their reach into international waters to combat transnational maritime crimes and execute SAR operations beyond national maritime boundaries.

ADJ: Could you share updates on the MMEA's effort to modernise its fleet and operational infrastructure to meet evolving demands?

D-G: The Malaysian Maritime Enforcement Agency (MMEA) is actively modernising its fleet and operational infrastructure to address evolving maritime challenges. Key initiatives include:

1. Procurement of Multi-Purpose Mission Ship (MPMS)

MMEA has signed an agreement with Desan Shipyard of Turkiye for the procurement of an MPMS, which is expected to be operational by the first quarter of 2027. The 99-meter-long vessel will enhance maritime surveillance, particularly in the South China Sea. Designed for extended operations, the MPMS is capable of sustaining continuous deployment for up to 30 days. The vessel is equipped with advanced assets, including four fast interceptor craft for rapid response, two unmanned aerial vehicles (UAVs) for aerial reconnaissance, a helideck to accommodate helicopter operations, onboard medical facilities and a detain facility



for detained individuals during enforcement operations.

2. Procurement of New Generation Patrol Craft (NGPC)

MMEA has received RM160 million in funding for the procurement of two NGPCs to strengthen patrol and enforcement capabilities. Each NGPC measures 45 meters in length and 7.7 meters in width and is capable of reaching speeds of up to 24 knots. These vessels can operate for 10 days at sea without requiring resupply. In addition to their patrol functions, the NGPCs are also equipped with systems for efficient oil spill response.

3. Repowering and Ship Life Extension Programme (SLEP)

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BAE Systems: 16-Fold Increase In 155mm Shell Production With New Manufacturing Methods

BAE Systems has developed innovative new approaches in the production of energetics and propellants expected to strengthen supply chain resilience for the UK and its allies. These developments follow more than US\$200m of investment by the company in its UK munitions facilities since 2022, which will deliver a 16-fold increase in production capacity of 155mm artillery shells when its new explosive filling facility at Glascoed, South Wales, becomes operational this summer (June-August).

The company has invested a further US\$11.33b in novel manufacturing methods over the last five years, leading to significant breakthroughs in the creation of next generation explosives and propellants. The new methods will use continuous flow processing to synthesise explosive material and remove the need for nitrocellulose and nitroglycerine, which are high in demand across global supply chains, in propellant

production.

As a result, the company anticipates it will be able to produce sufficient explosives and propellants in the UK to meet UK Ministry of Defence and export requirements, with the initial phase of industrial capacity expected by the end of 2026.

BAE Systems' Maritime and Land Defence Solutions business development director Steve Cardew said that the company's "leap forward" in synthetic energetics and propellant manufacture will strengthen the UK's supply chain resilience and support the company's ramp up of critical munitions production to meet growing demand in response to the "increasingly uncertain world we're living in". It also supports economic growth through high-skilled jobs and potential export opportunities.

"A pilot has already demonstrated the technological breakthrough producing the explosives in small nodes. This technology

would remove the need for a large-scale explosive factory. The new propellant formulation and associated manufacturing process have been demonstrated across a wide range of products from small arms to large calibre munitions.

"The new technologies are intended to require lower investment and would offer greatly reduced running costs whilst providing enhanced safety in manufacture due to the continuous process meaning there is less explosive in process at any given time."

Cardew added that as the primary producer of ammunition for the UK Ministry of Defence, BAE Systems supplies a range of munitions including small arms and artillery shells from sites across the UK, including in Cheshire, Monmouthshire and Tyne and Wear. ♦

MBDA

SEA VENOM

NEW GENERATION MEDIUM-RANGE
ANTI-SHIP MISSILE.



SEA VENOM has been designed from the outset as an anti-ship missile to provide true maritime strike capability, synchronized precision effects, and the ability to be deployed in complex littoral environments.



continued from page 12..

MMEA is implementing the Repowering Programme and SLEP to extend the operational lifespan of existing vessels in a cost-effective manner. The RM144 million project, approved in 2022, involves six vessels. Work commenced in December 2022 on five vessels from the Langkawi, Gagah, and Gemia classes, while an additional Gemia-class vessel began refitting in January 2024. This initiative is scheduled to be completed within three years, from October 2022 to October 2025.

4. Procurement of Four AgustaWestland AW189s

MMEA will acquire four AgustaWestland AW189 helicopters to enhance its monitoring, enforcement and SAR operations. This RM530 million investment will significantly strengthen MMEA's air operation capabilities. With advanced avionics, high endurance and increased passenger capacity, these helicopters will improve MMEA's ability to respond swiftly to maritime threats and emergencies. This procurement aligns with Malaysia's broader efforts to modernise its maritime assets.

5. Procurement of SWASLA for the East Coast of Sabah, Sarawak and the East Coast of Peninsular Malaysia

The SWASLA is an initiative by the MMEA that plays a vital role in safeguarding the nation's waters. This system is equipped with advanced radar technology and high-definition video recorders to detect, analyse and transmit real-time information on maritime activities. Currently, there are two operational SWASLA zones: SWASLA Lumut, which monitors the Strait of Malacca, and SWASLA Sabah, which oversees the waters off the west coast of Sabah. In an effort to enhance surveillance efficiency, MMEA plans to expand SWASLA installations to other strategic areas identified as maritime crime hotspots, including Sarawak and the east coast of Peninsular Malaysia. This initiative aims to strengthen monitoring efforts against activities such as drug smuggling, human trafficking and unauthorised maritime intrusions.

ADJ: With the growing importance of technology in maritime enforcement, what innovative solutions is the MMEA incorporating into its operations?

D-G: The agency is actively integrating advanced technologies to enhance its maritime enforcement capabilities. A significant focus is on the adoption of artificial intelligence (AI) across various facets of its operations.

In January 2025, the agency was selected by the Home Ministry to pioneer AI technology integration. AI technology would serve as a catalyst for operational reform, enhancing efficiency and promoting the use of modern technology to safeguard national security.

To support this initiative, MMEA has outlined specific training programs to equip its officers with advanced knowledge and skills in AI. The agency plans to leverage AI in areas such as surveillance, data analysis, and risk management to address increasingly complex maritime security challenges.

Additionally, MMEA is planning to acquire new radar systems integrated with AI under the Malaysia Coast Guard Maritime Domain Awareness (MCGMDA) system. These radars are intended to be deployed in strategic locations, including the waters off Sarawak and the east coast of Peninsular Malaysia, to enhance surveillance coverage and enforcement effectiveness.

Furthermore, MMEA has been utilising the Fulmar Unmanned Aerial System (UAS) to extend its operational capabilities. The Fulmar system offers high-performance surveillance features, including automatic detection and tracking, and has been installed on six New Generation Patrol Crafts to support various missions such as counter-piracy and border surveillance.

ADJ: How is the MMEA utilising unmanned aerial and maritime systems to enhance its surveillance and enforcement capabilities?

D-G: These technologies including unmanned (both aerial and maritime) play a crucial role in improving operational efficiency, ensuring maritime safety and addressing the various challenges the MMEA faces in safeguarding Malaysia's vast maritime domain. UAS and Unmanned Maritime Systems (UMS), such as autonomous surface vehicles (ASVs) and also underwater drones, which are robotic vehicles designed to operate on or under the surface of the water without the need for human intervention. UMS can be used for tasks such as surveillance of maritime traffic, border patrol, pollution monitoring and underwater inspections of vessels, ports and critical infrastructure. These systems are equipped with sensors like sonar, radar and GPS to gather valuable data about the maritime environment and track the movement of vessels.

The importance of these unmanned systems to MMEA's role and function is more than obvious. The MMEA is responsible for ensuring Malaysia's maritime security, which includes enforcing laws on the high seas, safeguarding Malaysia's Exclusive Economic Zone (EEZ), combating maritime crime such as illegal fishing, trafficking, piracy and pollution, and providing SAR operations. The vastness of the nation's maritime domain, spanning about 4,675 kilometers of coastline and rich in marine resources, presents a challenge for traditional methods of surveillance and enforcement.

The integration of unmanned aerial and maritime systems significantly enhances the MMEA's surveillance and enforcement capabilities. These technologies enable real-time monitoring, improved response time, and greater operational reach, which is critical for tackling maritime threats such as illegal fishing, piracy, pollution and border violations. As maritime security threats evolve, the use of these systems will continue to play an essential role in ensuring Malaysia's waters remain secure, safe and well-managed.

ADJ: As the MMEA looks ahead, what are the key priorities for the agency over the next decade?

D-G: As a maritime nation that relies on secure and stable waters for economic growth and national security, Malaysia faces increasing challenges in safeguarding its maritime domain.

To address these evolving threats, the MMEA has identified several strategic priorities, focusing on strengthening maritime law enforcement, enhancing border security and improving surveillance and monitoring capabilities.

To ensure better control over Malaysia's waters, MMEA is committed to continuously modernise its maritime and aerial assets. This includes acquiring the aforementioned MPMS and NGPC, implementing SLEP to optimise the lifespan of existing vessels, procuring AgustaWestland AW189 helicopters, deploying drones, and expanding SWASLA across Malaysia's waters.

Strengthening maritime security also means reinforcing efforts to combat transnational crimes such as smuggling, human trafficking, and illegal incursions. To achieve this, MMEA is enhancing its Command, Control, Communication, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) system through the second phase of its development. This system integrates key technologies, including the Malaysia Coast Guard Maritime Domain Awareness (MCGMDA), Malaysia Coast Guard Vessel Tracking Management System (MCGVTMS), and Malaysia Coast Guard Intelligence Information System (MCGIIS). These capabilities will enable maritime operations centers to detect and monitor suspicious activities within Malaysia's waters in real-time, allowing swift and effective enforcement action.

To improve SAR operations and maritime disaster response, MMEA is establishing a Regional Centre of Excellence as a dedicated training hub for SAR specialists. This initiative also includes upgrading critical rescue coordination infrastructure, such as the Maritime Rescue Coordination Centre (MRCC), Maritime Rescue Sub Centre (MRSC), and Mission Control Centre (MCC), to ensure faster and more effective emergency responses. Additionally, MMEA is integrating advanced tracking and communication technologies, such as Cospas-Sarsat, the Global Maritime Distress and Safety System – Digital Selective Calling (GMDSS-DSC), and the Search and Rescue Optimal Planning System (SAROPS), to improve the detection of vessels and individuals in distress.

Moving forward, MMEA is also prioritising digital transformation and the modernisation of its management systems to enhance efficiency and governance. This includes developing a comprehensive logistics management system, leveraging AI for crime monitoring and analysis, and reinforcing integrity in law enforcement operations.

As part of its long-term vision to become a world-class maritime enforcement agency, MMEA is investing in human capital development. This involves intensifying professional training, strengthening officer welfare, and expanding international collaboration programmes to ensure its personnel are well-equipped to tackle the increasingly complex challenges of maritime security. Overall, MMEA's strategic focus for the next decade is to modernise assets and operations, strengthen maritime law enforcement, enhance SAR capabilities, and develop a highly professional and efficient organisation. ♦



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Chief Of Navy, Singapore

REAR Admiral Sean Wat answers *Asian Defence Journal's* questions in an interview on developments in the field of naval technology, strategy and naval diplomacy. He also gave insights on the various aspects of the maritime domain, lessons learnt in current conflicts and force modernisation milestones.

ADJ: Admiral, in these challenging times, can you elaborate more on obstacles in the RSN's path and how the RSN stays ahead of the curve?

CNV: The maritime domain is experiencing an increasingly complex set of challenges. The traditional challenges of maritime crime – sea robberies and piracy, trafficking, and illegal unreported and unregulated fishing – are still present in our region, though under control by the littoral states. We are also monitoring the risk of maritime terror attacks. Geopolitical rivalries and unresolved territorial disputes are playing out in the form of increasingly aggressive and assertive postures and actions at sea.

Attacks on Critical Underwater Infrastructure (CUI) have also come into sharp focus in recent months. Particularly in the Baltic Sea, underwater cables and pipelines were damaged, causing significant disruption. Countries in that region are watching closely and have moved quickly to respond, with national governments working closely with regional partners, private industries and other stakeholders to secure CUI. This includes NATO launching Operation Baltic Sentry, bringing together navies and other agencies to protect CUI in the Baltic Sea.

Our Minister for Defence also raised CUI as an area of concern at the ADMM Retreat in February this year, with the ASEAN Defence Ministers agreeing to task officials to look into the issue. We are studying how the RSN can work with regional partners and Whole-of-Government (WoG) agencies to foster and strengthen cooperation in this domain to safeguard CUI vulnerabilities.

ADJ: Is there more you can share on the RSN's present requirements based on lessons learned from the latest in modern naval warfare?

CNV: Further afield, the Houthis had made effective use of a variety of low-end and high-end weapons in past attacks in the Red Sea. Shipping through the Red Sea fell significantly, costing hundreds of billions of dollars of damage to the global economy. We have also seen the employment of novel maritime unmanned capabilities from the Russia-Ukraine conflict to deliver operational effects.

Counter UAS is another important aspect that we are studying. With the proliferation of technologies and unmanned systems, there is also a need for us to develop innovative and practical solutions to counter threats arising from these systems. For example, to deal with threats posed by drones, both in the air and surface domains, the RSN will be progressively upgrading our ships with the Strales 76mm

Guided Gun which have been proven to be effective against fast moving air and surface targets. This also offers a cost-effective solution as compared to other conventional weapons such as higher-end missiles. We are also exploring other solutions.

ADJ: Would you be able to share more on the RSN's recent strides towards modernisation?

CNV: In 2023, we announced the Mid-Life Upgrade to the Formidable-class frigates. The upgrades ensure that our ships are able to deal with a range of threat scenarios, and are progressing well. We will share more details in due course.

With the MRCVs coming online progressively from 2028, the RSN will be focusing our efforts on designing our operating concepts to enable the effective deployment of the unmanned systems from the mothership to maximise their capabilities. We are confident that the designs of the MRCV or even the MARSEC USV are advanced and capable and will bring value to any of our partner nations, and we welcome interests in procurement.

In April, we witnessed the Keel-Laying Ceremony for Singapore's first two Offshore Patrol Vessels at Western Baltic Shipyard in Klaipeda. I am glad to share that we are making good progress for the construction of the OPVs. The ships are based on a proven OPV design by the German Bundespolizei (Federal Police) and are designed with high manoeuvrability to operate in Singapore's congested waters. The ships will be equipped with a suite of lethal and less-lethal capabilities to provide flexibility and calibrated responses against a wide spectrum of maritime threats. The OPVs are expected to be introduced from 2028 onwards and will progressively replace the Maritime Security Response Flotilla's existing Sentinel-class vessels. We will share more on the technical details and capabilities of the OPVs in time to come.

Specifically, our Maritime Security Unmanned Surface Vessels (MARSEC USVs) are progressively being operationalised to conduct operations from January 2025. They operate alongside manned ships such as the RSN's Littoral Mission Vessels (LMVs) to enhance the security of Singapore's waters. With a team of two, our MARSEC USVs are able to take on similar patrol tasks as manned warships. They will add another layer of surveillance and operational response to our maritime security system. They conduct patrols, and when required, will investigate and interdict suspicious vessels. The USVs also allow other warships like the LMVs to be deployed for other, more complex missions, and at further ranges from Singapore. We will continue experimentation to enhance our MARSEC USVs for a wider range of maritime security operations.

ADJ: How are the RSN's efforts to incorporate further unmanned initiatives in the aerial and



naval domain progressing?

CNV: We have signed a contract with ST Engineering to acquire a new suite of Unmanned Mine Counter-Measure capabilities to replace the existing Bedok-class Mine Counter-Measure Vessels. This will include Mine Counter-Measure Unmanned Surface Vessels (MCM USVs), Autonomous Underwater Vehicles and their Command & Control (C2) Infrastructure. The MCM USV employs key payloads such as Towed Synthetic Aperture Sonars (TSAS), Mine Neutraliser Systems and Remote Weapon Systems. These MCM USVs will be developed based on lessons and insights that we have gained from operating the MARSEC USVs, including equipping them with the indigenously developed Collision Detection and Collision Avoidance (CDCA) algorithm that enables the vessel to navigate through the busy traffic in the Singapore Strait and cope with the constantly changing environmental conditions at sea. The acquisition of these unmanned capabilities will further enhance our ability to respond to evolving maritime security threats in a more efficient manner, all whilst reducing the operational risks to our sailors who can now operate these systems remotely. These systems will be delivered progressively from 2027 onwards.

Beyond the higher-end unmanned systems, the RSN is also exploring how we can adapt lower-cost, commercially off-the-shelf (COTS) drones to fulfil our operational needs. This is critical as it would allow us to shorten the capability-development cycle to effectively deal with emerging threats. In the steady state, we envisage that we will operate a mix of higher-end, purpose-built drones, as well as low-cost drones to fulfil the range of our operational needs.

Defence Science Organisation engineers have also developed the V60 Unmanned Aerial Vehicle (UAV) which can operate safely and autonomously on board a moving ship. The V60 provides greater range for surveillance for RSN

missions, and trials on board our Littoral Mission Vessels are progressing well. Once ready, the V60s will progressively also be introduced on other RSN ships.

ADJ: Though operated by the Air Force, could you shed some light on the planned maritime patrol aircraft programme with Boeing's P-8 Poseidon and Airbus C295 reported as the primary candidates?

CNV: During the recent Committee of Supply (COS) debate, the Minister of Defence mentioned that our Fokker-50 Maritime Patrol Aircraft are due for replacement. Our Fokkers have served with distinction for three decades since 1993. The SAF is looking intently and

evaluating appropriate replacements. Two possibilities are the Boeing P-8A and Airbus C295. The new MPA will take into consideration the SAF's operational needs. We expect these aircraft to be more capable as compared to the Fokker-50 aircraft, expanding the envelope of maritime air operations, thus enabling us to better secure our Sea Lines of Communications.

ADJ: Admiral, what can you tell us regarding the ministry's announcement of an additional acquisition of two more submarines and the planned replacement of Endurance-class Landing Ships Tank (LST)?

CNV: The Minister for Defence updated during the COS debate this year that two of the four

Invincible-class submarines have returned to Singapore and are operationalising well in our tropical waters. The construction and outfitting of the other two Invincible-class submarines are also progressing well, and are slated to return to Singapore from 2028. Submarines are a strategic capability, and we assess that having four is not optimal for a fleet due to the rigorous maintenance cycles which result in reduced operational time. That is why most navies – like those in Australia, Indonesia, Vietnam, just to name a few of our close neighbours – that operate submarines have more than four.

The RSN ensures that our platforms are ready to meet operational demands through regular maintenance and upgrade programmes. We are still studying options for the LST-replacement. ♦

Multi-Mission Medium Transport KC-390 Millennium At LIMA'25



EMBRAER, among the global leaders in the aerospace industry, is displaying its KC-390 Millennium, touted as the most advanced multi-mission tactical airlift in its class, at the 17th edition of Langkawi International Maritime and Aerospace Exhibition (LIMA'25). It marks Embraer's increasing momentum for its defense portfolio in Southeast Asia. Visitors to Embraer's booth (C013) and the outdoor static display area will be shown how the advanced, new generation multi-mission aircraft which entered into service in 2019 is redefining the concept of medium transport aircraft across the world.

"Embraer is proud to bring the KC-390 to LIMA 2025. It is a new generation military airlift with multi-mission capability, interoperability, reliability, low life-cycle cost and high performance at its core. The aircraft is gaining traction around the world, and we look forward to expanding our footprint in the Asia Pacific region," said Embraer Defense

& Security president and CEO Bosco da Costa Junior.

The KC-390 is a new generation multi-mission aircraft designed and built to take on the demands of the 21st century operating environment. The aircraft is the most advanced in its class and flies faster (470 knots) and further on a standard crew duty day. It also carries more cargo (26 tons) compared to other medium sized military cargo aircraft. It is powered by IAE V2500 engines.

The KC-390 has been in operation for many years at Full Operational Capability and can perform a wide range of missions such as transporting and dropping cargo and troops, medical evacuation, search and rescue, humanitarian missions, firefighting and air-to-air refueling both as a tanker and a receiver.

Capable of performing reliably in Southeast Asia's diverse terrains and climate, the KC-390 can operate on temporary or unpaved

runways, including packed earth, soil and gravel and in conditions ranging from humid to hot and high or cold and dry.

Embraer's KC-390 is also equipped with a modern and comprehensive suite of sensors and communication equipment that support vital connectivity between aircraft, operational commands, and troops on the ground. Additionally, KC-390's robust integrated electronic warfare and self-protection system drive survivability.

The aircraft has achieved an outstanding mission accomplishment rate of 99% with low operational costs. Its multi-mission capability and interoperability are built-in by design, enabling the aircraft to be ready for all mission profiles by Air Forces.

Embraer says the KC-390 Millennium is quickly becoming the aircraft of choice in countries around the world including Europe, contributing to the modernisation of their armed forces while adding new capabilities and enhancing interoperability. The aircraft is already in operation with Brazil, Portugal, and Hungary, and has been ordered by South Korea, the Netherlands, Austria, the Czech Republic and an undisclosed customer. The aircraft was recently selected by Sweden and Slovakia for their national defense needs.

Embraer's aircraft are operated by several defense forces in Southeast Asia, including Thailand, Philippines and Indonesia. The A-29 Super Tucano aircraft which enables various missions including close air support and advanced training missions are operated by Indonesia and the Philippines.

In the last two decades, Embraer has designed, manufactured, certified, and delivered into service 21 different aircraft platforms – a testament of its engineering capabilities and excellence. ♦

NHIndustries Secure NATO Contract, Eye Asian Growth With NH90 Helicopter

NHINDUSTRIES, the European consortium behind the NH90 helicopter, has signed a US\$678 million multinational support contract with the NATO Support and Procurement Agency (NSPA) to sustain the operational readiness of NH90 fleets in Belgium, France, Germany, Italy and the Netherlands. This five-year agreement will strengthen the in-service support framework through a more integrated and automated supply chain system, aimed at enhancing fleet availability and lifecycle efficiency. The contract, managed by NSPA on behalf of the NATO Helicopter Management Agency (NAHEMA), is the latest in a series of support agreements under a long-standing cooperation that began in 2004. It comes as NHIndustries continues to deliver long-term value to its NATO customers, ensuring mission readiness for both land and naval variants of the NH90.

The NH90 is a versatile, twin-engine, multi-role helicopter available in two primary configurations: the Tactical Transport

Helicopter (TTH) for land operations and the NATO Frigate Helicopter (NFH) for maritime missions. Since its introduction into service in 2007, more than 500 NH90s have been delivered worldwide.

In tandem with the support deal, NHIndustries is leading a comprehensive upgrade programme for the NH90 fleet, worth another US\$678m, designed to extend the helicopter's operational life by up to 15 years. The modernisation includes integration of cutting-edge communication systems, including Data Link 22 for enhanced beyond line-of-sight interoperability, and the latest Identification Friend or Foe (IFF) Mod 5 Level 2 system. The upgrades will benefit Belgium, Germany, the Netherlands, and Italy.

While Europe remains a major operational base for the NH90, NHIndustries is actively exploring opportunities in Asia, where demand for modern, multi-role military helicopters continues to grow. The consortium – which includes Airbus

Helicopters, Leonardo and Fokker – has identified the Indo-Pacific region as a key growth market.

NHIndustries is currently promoting the NH90 to a number of Asian countries seeking to modernise their rotary-wing capabilities. The helicopter's proven track record in both land and maritime roles, combined with its modular design and ongoing upgrade potential, makes it a strong contender for new procurement programs across Southeast Asia, South Asia, and the Pacific. Several regional air forces and navies have shown interest in platforms that can operate in diverse environments – ranging from shipborne operations to troop transport and special forces missions – capabilities in which the NH90 excels. NHIndustries is positioning the helicopter as a cost-effective solution with strong logistical and training support backed by decades of NATO-standard operational experience. ♦

Naval Group Strengthen Commitments For Greek Industry

ON May 6-7, at the DEFEA exhibition in Athens, Naval Group through its subsidiary in Athens – the Naval Group Hellas – strengthened its commitments in favour of the Greek industry through the signature of new partnership agreements with six local companies in the frame of the Hellenic Industrial Participation (HIP) plan; four framework contracts on the support of the FDI frigates, and two Memorandum of understanding (MoU) regarding the integration of drones on surface ships, beyond the *Fregate de Defense et d'Intervention Hellenic Navy* (FDI HN) programme. The HIP plan was launched in March 2022 at the start of the programme.

Since then, the group has continuously increased the part of local content included in the FDI programme, in a continuous commitment to integrate the Greek industry in the programme and more broadly in its supply chain. More than 120 contracts have been signed with around 70 Greek companies.

Drone Integration On Surface Ships

Naval Group and ALTUS LSA signed an MoU in order to cooperate in the field of Unmanned Autonomous Systems (UAVs) marinisation and integration on navy ships (FDI frigates but also Gowind corvettes and other surface ships). Naval Group has identified the great potential and wide range of use on its naval platforms of the UAVs designed and produced in Greece

by ALTUS, and especially the already developed ATLAS-8. This cooperation will also encompass R&D projects through submission of joint proposals for national, international and European programmes on research, development and innovation matters.

Naval Group and Hellenic Aerospace Industry (HAI) also signed an MoU to initiate discussions on the integration of the Centaur C-UAS system on the FDI platform, and later to other surface ships platforms. HAI is specialised in aeronautical solutions and maintenance, and Naval Group identified its skills and expertise for the development of the FDI programme for the Hellenic navy, and for potential future cooperation programmes. This cooperation agreement also integrates R&D projects around the integration of C-UAS systems such as anti-drones warfare systems.

Increasing Hellenic DITB Integration Through Local Support Of Future FDI HN Fleet

As the FDI programme is moving forward, and the first unit is scheduled to be delivered at the end of the year, Naval Group is involving more and more Greek companies in the support of the frigates. The four framework contracts signed at DEFEA aim at contributing to the future support of the FDI for the Hellenic Navy in Greece, covering the following services:

- FARAD: Services for HVAC systems

- DIVING STATUS: Underwater inspection and maintenance work
- MELITA: Diesel engine
- PETROS PETROPOULOS: Diesel generator.

Growing Cooperation With Local Industry, Beyond The Programme

Beyond the FDI programme, this industrial plan has already had numerous and lasting economic benefits for the Greek industry by making it possible to integrate Greek companies into Naval Group's supply chain for current and future French and export programmes. From that broad perspective, the Greek Defence Industrial & Technological Base (DITB) will enhance its position in the global naval defence market.

Already 75 Greek companies are registered in the Naval Group supply chain platform allowing them to potentially participate in Naval Group future programmes (both French and export programmes).

Naval Group also supports, through its Naval Group Hellas subsidiary, the development of the future Greek naval warfare capabilities through R&D projects with local companies, universities and research institutes (NTUA, the University of Patras, Forth Research centre, the Hellenic Naval Academy), as well as bilateral and European projects on the structure monitoring and on maritime surveillance. ♦

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