# Marine Rotational Force – Southeast Asia Begins Third Annual Deployment

From Marine Rotational Force–Southeast Asia, Oct. 1, 2024

MANILA, Philippines – U.S. Marines and Sailors from I Marine Expeditionary Force have arrived in the Philippines as part of the third annual rotational deployment of Marine Rotational Force – Southeast Asia. MRF-SEA forces will begin their six-month stint in the region by training alongside Philippine Allies in exercises Sama Sama 2024 and KAMANDAG 8 from Oct. 7-24, 2024.

The MRF-SEA deployment continues through March 2025 and includes six additional exercises and security cooperation engagements throughout Southeast Asia. MRF-SEA's additional exercises include training alongside the Philippine Marine Corps, the Malaysian Army, the Indonesian Marine Corps, the Royal Brunei Land Forces, the Singapore Armed Forces and the Royal Thai Armed Forces.

This annual rotational deployment of Marines is designed to build upon cooperative relationships with important regional

Allies and partners, increasing effective interoperability, maintaining U.S. Marine Corps forces in the region, and contributing to freedom within the Indo-Pacific.

MRF-SEA is a flexible task force that varies in size, capability, and composition, to accomplish different types of missions. Much like the Unit Deployment Program or Marine Expeditionary Unit deployments that leverage purpose-built units, MRF-SEA maintains a forward presence and enhances Marine Corps crisis and contingency response capabilities. MRF-SEA is uniquely organized to support security cooperation and advance mutual security objectives shared with Southeast Asian Allies and partners.

“Marine Rotational Force-Southeast Asia is deploying to the Indo-Pacific region to train and operate alongside our Allies and partners,” said Col. Stuart W. Glenn, commanding officer, MRF-SEA. “The Marine Corps is committed to preserving the freedom of the region and its people. We train together to strengthen our relationships and collective capabilities, and the intent of MRF-SEA is to cultivate and reinforce the common values and capabilities between our partners and to preserve a rules-based international order.”

Planned exercises during this deployment will provide opportunities to enhance partnered interoperability through expert-led training exchanges including ground and aircraft fires integration; combat medical care; Chemical, Biological, Radiological, Neurological response; logistics support in contested environments; small boat operations; amphibious operations planning; Unmanned Aerial Surveillance employment; and other topics. Additionally, MRF-SEA will conduct realistic training events to include live fire events, military operations in urban terrain, amphibious operations, hand-to-hand combat, and numerous others alongside allied and partner forces.

MRF-SEA’s presence enables a consistent and annual Marine

Corps presence in the Indo-Pacific as Marine Rotational Force-Darwin returns to the United States from Australia. This consistent Marine Corps presence provides a persistent, tailorable force capable of command and control, operational planning, and theater security cooperation activities whenever needed.

The 13th Marine Expeditionary Unit command element will lead MRF-SEA throughout this six-month rotation and vary the force's size and composition to effectively execute each of the eight planned exercises. Elements from 1st Air Naval Gunfire Liaison Company, I Marine Expeditionary Force Information Group and 1st Marine Division will composite with the rotational force to achieve each exercise's purpose and maintain U.S. Marine forces in Southeast Asia.

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# Sonobuoy Testing on Heavy Lift Helicopters Expands Capabilities

Hand-launched deployments of sonobuoys from a CH-53E Super Stallion showcases the aircraft’s flexibility and various payloads the heavy lift helicopter can take on. (U.S. Navy)
From Naval Air Systems Command, Sep 27, 2024

PATUXENT RIVER, Md. – Recent successful testing of hand-launched deployments of sonobuoys from a CH-53E Super Stallion have expanded the capabilities of the aircraft, providing increased flexibility for the U.S. Navy to support Anti-Submarine Warfare (ASW) in the joint environment. Similar testing will soon do the same for the CH-53K King Stallion.

The successful deployments of sonobuoys from a heavy lift helicopter showcases the aircraft’s flexibility and the changing payloads the aircraft will take on as the CH-53K replaces the CH-53E in the fleet.

“The H-53 is purpose-built to carry heavy loads, but that’s not the limit of our operational relevance,” said Col. Kate Fleeger, Program Manager, Heavy Lift Helicopters Program Office (PMA-261). “This test is just one example of the untapped capabilities of the H-53. Future payloads and the evolution of the H-53 in the battlespace are limited only by

our imagination.”

PMA-261, Air Test and Evaluation Squadron Two One (HX-21) and Air Anti-Submarine Warfare Systems Program Office (PMA-264) at Naval Air Station Patuxent River, Maryland, conducted the sonobuoy tests, which were overseen by Adam Chesser, H-53 Lead Test Engineer, and performed over the Atlantic Ocean off the coast of Virginia.

“We evaluated the procedures and separation characteristics to ensure the sonobuoys would not strike the aircraft when launched,” said Chesser. “Clearing the heavy lift aircraft for sonobuoy deployment creates another level of redundancy for the Navy and provides more resources and flexibility to complete the mission.”

The successful tests were also accomplished with a significant savings in time and money, according to Joe Pham, Assistant Program Manager for Test and Evaluation at PMA-261.

“By exploring and using an alternative test range option to alleviate scheduling and funding constraints, we were able to execute the test on time and save cost to the program,” he said.

PMA-261 manages the cradle-to-grave procurement, development, support, fielding, and disposal of the entire family of H-53 heavy lift helicopters.

PMA-264 plays a critical role in developing, acquiring and sustaining airborne ASW systems and sensor requirements for the Fleet, the Maritime Patrol and Reconnaissance Aircraft program office, the H-60 Helicopter program office, the Persistent Maritime and the Unmanned Aerial Systems program office, and the Navy and Marine Corps Multi-Mission Tactical Unmanned Air Systems program office.

# Marine Corps Successfully Demonstrates Link-16 in Third XQ-58A Valkyrie Test Flight

From Headquarters U.S. Marine Corps

EGLIN AIR FORCE BASE, Fla. – The Marine Corps' XQ-58A Valkyrie successfully completed its third test flight on Sept. 20, 2024, at Eglin Air Force Base in Florida. This flight was conducted in partnership with the Office of the Under Secretary of Defense for Research and Engineering, the Naval Air Warfare Center Aircraft Division, and industry partners.

The test demonstrated newly added Link-16 capabilities for the uncrewed collaborative combat aircraft prototype, marking the

first time the Department of Defense controlled an air vehicle using offboard expeditionary methods. Initial results indicate that the prototype met threshold requirements for autonomously exchanging relevant tactical information. These Link-16 capabilities significantly enhance the Marine Air-Ground Task Force’s ability to conduct integrated and joint operations, contributing to the Marine Corps’ mission to deter conflict and, when necessary, defeat enemies in complex and evolving scenarios.

This successful test was conducted in preparation for Emerald Flag 2024, a multiservice and multi-domain training exercise scheduled for October. The exercise will incorporate technology and focus on the efficiency of joint warfare. The XQ-58A has proven itself ready for this capstone event, allowing the Marine Corps to demonstrate cooperative kill chain closure between manned and unmanned strike platforms for the first time in a large-force exercise.

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# New Commander Takes Charge of Pacific Marines

U.S. Marine Corps Lt. Gen. William M. Jurney, U.S. Marine Corps Forces, Pacific, gives his final remarks as commander during the MARFORPAC change of command ceremony on Marine Corps Base Hawaii, Sept. 12, 2024. *U.S. Marine Corps | Staff Sgt. Ash McLaughlin*

MARINE CORPS BASE HAWAII – Lieutenant General William M. Jurney relinquished command of U.S. Marine Corps Forces, Pacific to Lieutenant General James F. Glynn during a ceremony aboard Marine Corps Base Hawaii, Sept. 12, 2024. Jurney also retired from the Marine Corps during the ceremony.

“You don’t get here by happenstance,” said General Eric M. Smith, commandant of the Marine Corps. “You get here by determination, by hard work, by commitment to your profession. You’re hand selected to come here based on your integrity, your vision, and your warfighting expertise.”

Jurney, a native of Statesville, North Carolina, commanded MARFORPAC since September 2022. After graduating from the University of North Carolina at Charlotte in 1987, he enlisted in the Marine Corps and retired with more than 37 years of service.

“The Marines and Sailors standing in front of you today represent two Marine Expeditionary Forces, both I and III MEF, and our headquarters,” stated Jurney during his last address as commander. “The MEFs and MARFORPAC represent approximately two-thirds of the entire United States Marines Corps’ combat power. Every day, over 80,000 Marines and Sailors make sacrifices for our country, and we do not forget them for their service.”

During Jurney’s tenure, Pacific Marines participated in several significant events, including the first deployment of the Amphibious Combat Vehicle with the 15th Marine Expeditionary Unit, the redesignation of 12th Marine Regiment to 12th Marine Littoral Regiment, Unmanned Aerial Vehicle Squadron 3’s transition from the RQ-21A to the MQ-9A MUX/MALE, and support to more than 120 exercises and engagements throughout the Indo-Pacific theater.

Reflecting on the achievements and progress made while in command, Jurney highlighted the dedication and readiness of Pacific Marines.

“They stand ready to fight – and to fight and win – on behalf of our nation and on behalf of our nation’s commitment to our allies and to our partners,” Jurney said. “Our capabilities of readiness are possible because of strong partnerships and our strong alliances.”

A native of Albany, New York, Glynn graduated from the U.S. Naval Academy and commissioned in 1989. He most recently served as deputy commandant for Manpower and Reserve Affairs, based in Quantico, Virginia.

“You should expect me to be out front ensuring that you have what you need and that you are taken care of so that we can achieve the things in support of our partners and Allies,” Glynn said during his first remarks to Pacific Marines. “So, we can do the things that are required to prevail – that are

expected of us as individuals and as a group. So, know those standards and exceed those standards at every occasion."

The ceremony featured marching units, the MARFORPAC Band, a combined color guard representing MARFORPAC and its subordinate commands, an artillery salute, and the traditional passing of the unit colors from the outgoing to the incoming commander, signifying the transfer of authority and accountability of the command.

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# Marine Corps Adds AGM-158A Joint Air-to-Surface Standoff Missile to F/A-18 Arsenal

U.S. Marines load an AGM-158A joint air-to-surface standoff

missile on an F/A-18 Hornet assigned to VMFA-232 during the AGM-158A validation and verification at Marine Corps Air Station Miramar, California, Aug. 27, 2024. *U.S. Marine Corps | Lance Cpl. Jennifer Sanchez*

MARINE CORPS AIR STATION MIRAMAR, California – Marines with Marine Aviation Logistics Squadron 11 and Marine Fighter Attack Squadron (VMFA) 232 became the first to conduct ordnance operations with the Marine Corps' newest F/A-18 Hornet weapon, the AGM-158A joint air-to-surface standoff missile, during validation and verification testing at Marine Corps Air Station Miramar, California, Aug. 27-28, 2024.

The AGM-158A JASSM is a conventional, stealthy, air launched ground attack cruise missile with a range of 230 miles. In 2018, the United States employed the JASSM in combat for the first time, fired from U.S. Air Force B-1B Lancer bombers, destroying a Syrian chemical weapons manufacturer and proving the JASSM's effectiveness.

"The integration of the AGM-158A joint air-to-surface standoff missile into the F/A-18's arsenal significantly enhances the Hornet's capabilities, enabling it to strike targets from well beyond the reach of enemy air defenses," said Major Bradley Kirby, an aviation ordnance officer with 3rd Marine Aircraft Wing.

Marines conducted validation and verification testing by loading an AGM-158A JASSM onto an F/A-18 assigned to VMFA-232 to evaluate the loading procedures, connecting hardware and software – a required protocol before the JASSM is incorporated in the Marine Corps arsenal.

As the Marine Corps tailors its advanced fighter attack aircraft and ushers in fifth-generation aircraft, it is also integrating new munitions with increased range, speed and lethality.

Marine Corps strike fighter platforms are postured to acquire long-range, maritime strike capabilities with the inclusion of

the AGM-158B joint air-to-surface standoff missile extended range and AGM-158C long range anti-ship missile on the F-35B/C weapons integration roadmap.

“The JASSM not only surpasses the capabilities of any other weapon currently in the Hornet’s extensive weapons portfolio, but also the Marine Corps at large,” Kirby said. “This added capability will greatly increase 3rd Marine Aircraft Wing’s ability to support the joint force and enable greater freedom of maneuver across all operational domains.”

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# US Marine Corps Orders L3Harris Multi-Channel Radios Under 10-Year IDIQ

SEAPOWER
The Official Publication of the Navy League of the United States

From L3Harris, Aug 28, 2024

ROCHESTER, N.Y., Aug. 28, 2024 – L3Harris Technologies

(NYSE:LHX) has received a new order from the U.S. Marine Corps for multi-channel handheld and vehicular radio systems worth more than $120 million, bringing program orders to date above $600 million.

The recent order is under a 10-year, $750 million indefinite delivery, indefinite quantity contract for L3Harris Falcon IV® handheld radios. These software-defined devices allow for immediate upgrades to the latest in NSA-certified, high-assurance standards and access to a broad resilient waveform portfolio to maintain spectrum superiority against emerging threats.

“Our continued investment toward high-assurance technology centers around providing U.S. Marines and other customers the ability to operate seamlessly on the move without enemy interference or detection,” said Chris Aebli, President, Tactical Communications, L3Harris. “These highly advanced systems allow our fighting forces to coordinate with a growing coalition that have selected L3Harris as their resilient communication systems provider.”

L3Harris delivers communication systems enabling Combined Joint All-Domain Command-and-Control concepts with more than 60 years of experience supporting joint force and coalition partner initiatives, including the U.S. Army’s Handheld, Manpack and Small Form Factor, the U.S. Special Operations Command’s Next Generation Tactical Communications and the UK Ministry of Defence’s Multi Mode Radio programs.

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# 68th Annual Tailhook

# Symposium Concludes

Rear Adm. Doug Verissimo, commander, Naval Air Force Atlantic, speaks during the 2024 Tailhook Symposium in Reno, Nevada. The symposium brought together Navy and Marine Corps aviators and industry partners to discuss significant issues impacting the Naval Aviation Enterprise. (U.S. Navy photo by Mass Communication Specialist 1st Class Ryan J. Batchelder)

By Petty Officer 1st Class Aron Montan, Commander, Naval Air Forces

RENO, Nev. – U.S. Navy and Marine Corps aviators, veterans, industry partners and supporters attended the 2024 Tailhook Association symposium, Aug. 22-24, at the Grand Sierra Resort in Reno, Nevada. The symposium consisted of various speaking panels, junior officer engagements, an awards luncheon, winging ceremony and a banquet.

Guest speakers included Adm. Sam Paparo, commander U.S. Indo-Pacific Command; Adm. Daryl Caudle, commander, U.S. Fleet

Forces Command; Vice Adm. Dan Cheever, commander Naval Air Forces; Rear Adm. Michael Donnelly, director, Air Warfare Division; Rear Adm. Daniel P. Martin, commander, Naval Safety Command; and Rear Adm. Marc Miguez, commander, Carrier Strike Group Two.

The 68th Tailhook Symposium focused on today's warfighters and topics relevant to the modern landscape of the Naval Aviation Enterprise (NAE). This year's theme of "Be Ready" emphasized the importance of alignment and teamwork between warfighters and industry partners to ensure mission readiness.

"Naval aviation is essential to our maritime nation," said Cheever. "Sea control requires air superiority, and air superiority is what naval aviation provides. The U.S. Navy's indispensable aircraft carriers, carrier air wings and the Tailhookers who operate on them are key to our ability to win."

The three-day event kicked off with an integrated air dominance panel and NAE update to industry partners, emphasizing their contributions to naval aviation. On the second day of the event, Cheever moderated a flag officer panel facilitated discussion between flag officers and Navy and Marine Corps attendees.

"The Navy, enabled by naval aviation, provides credible capability for deterrence, sea control, preservation of peace, response in crisis and power projection to win decisively in combat," said Cheever. "When coupled with our expeditionary forces, USMC, joint forces, allies and partners and industry partners, we are a formidable and key part of distributed maritime operations."

Additionally, a panel of junior officers from Carrier Air Wing Three, embarked on the USS Dwight D. Eisenhower (CVN 69), shared their experiences of operating in a combat zone,

emphasizing the intense coordination required during missions and the personal growth they gained facing unprecedented challenges. They highlighted the camaraderie among the crew and the critical role their training played in ensuring successful operations under high-pressure conditions.

Tailhook 2024 concluded with a winging ceremony where student naval aviators received their “Wings of Gold,” marking their transition to fully qualified naval aviators.

The Tailhook Association is an independent, nonprofit organization supporting aircraft carrier and other sea-based aviation.

The NAE benefits national security by improving the operational readiness of Naval Aviation. The NAE provides a collaborative forum for leaders to deliberate and resolve interdependent issues affecting multiple stakeholders across the whole of naval aviation.

As the type commander for naval aviation, Commander, Naval Air Forces’ mission is to “man, train and equip deployable, combat-ready Naval Aviation forces that win in combat.”

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# USS Somerset Returns Home After Indo-Pacific Deployment

Sailors assigned to the San Antonio-class amphibious transport dock ship USS Somerset (LPD 25) man the rails as the ship transits through San Diego Bay, Aug. 13, 2024. (U.S. Navy photo by MC2 Class Evan Diaz)
From Lt. Zachary Anderson, 13 August 2024

SAN DIEGO – Sailors assigned to San Antonio-class amphibious transport dock USS Somerset (LPD 25) returned home Aug. 13 to San Diego after a seven-month deployment with embarked Marines from the 15th Marine Expeditionary Unit (MEU) in the U.S. 7th and 3rd Fleet areas of operations.

More than 1,400 Sailors and Marines participated in a wide range of joint and combined exercises, showcasing the ready and responsive combined-arms team of the Navy and Marine Corps, capable of responding quickly and decisively to a wide array of military operations.

“Somerset’s motto is ‘courage through adversity,’ and I can think of no crew that better exemplifies that ethos than the combined Navy-Marine Corps team that have called this ship

home for the past seven months," said Capt. Andrew Koy, commanding officer of Somerset. "I have no doubt that the numerous multilateral exercises in which Somerset participated played a key role in strengthening international partnerships and alliances throughout the Western Pacific."

Exercises such as Cobra Gold, Tiger Triumph, Balikatan, Cooperation Afloat Readiness and Training (CARAT) Indonesia, Tiger Strike, and Rim of the Pacific (RIMPAC) 2024, reinforced America's commitment to allies and partners throughout the Indo-Pacific region and increased force interoperability.

After setting sail in January, Somerset participated in Exercise Cobra Gold 2024, the 43rd iteration of the largest joint exercise in mainland Asia. Taking place in Thailand, U.S. Marines from the 15th MEU were able to conduct two community relations events, demonstrating their commitment to the region, as well as a unit-level training rotation alongside Republic of Korea and Royal Thai Marines, enhancing interoperability.

"The hard work demonstrated at CALFEX (combined arms live fire exercise) is a tangible demonstration of the collective strength and focus we have when working with our allies and partners," said U.S. Marine Corps Lt. Col. Lindsay Mathwick, commanding officer of Combat Logistics Battalion 15, 15th Marine Expeditionary Unit, and commander of troops aboard Somerset. "Seeing the synchronization and communication with our combined and joint forces at work throughout these two weeks of training shows how important exercises like Cobra Gold are to our development as a force."

From Thailand to India, Somerset followed up Cobra Gold by participating in Tiger Triumph 2024, marking the third time U.S. and India came together for the exercise. Forces operated near Visakhapatnam and Kakinada, India, and focused on advancing large-scale joint and combined interoperability for

humanitarian assistance and disaster relief operations, as well as work through standard operating procedures between the combined and joint forces.

The exercise included a harbor phase followed by a sea phase where U.S. and Indian forces practiced combined operational maneuvers, command and control, and joint sustainment operations. Somerset was joined by a P-8A Poseidon maritime patrol and reconnaissance aircraft from Patrol Squadron (VP) 4, the Arleigh Burke-class guided missile destroyer USS Halsey (DDG 97), along with U.S. Army and Air Force assets.

Exercise Balikatan 2024, a combined exercise featuring French, Australian, U.S., and Filipino service members, reinforced America's longstanding, strategic partnership with the Philippines and partner nations. Over a three-week span, partner nations' forces trained shoulder-to-shoulder at locations throughout the Republic of the Philippines to increase proficiency in maritime security, amphibious operations, combined arms, aviation operations, and information and cyberspace operations.

Emphasizing quality over the quantity, this year's exercise focused on the planning and execution of complex, combined military operations. Balikatan, which means "sharing the load together" in Tagalog, built upon previous iterations, coalescing partner nation capabilities into the unified force necessary to deter aggression and maintain a free and open Indo-Pacific region.

In addition to the field exercises, forces injected nearly $50 million into the local community, via humanitarian engineering projects, such as building schools and medical centers, and training medical personnel.

Following Balikatan's concluding ceremony, May 10, Somerset participated in CARAT Indonesia 2024. The bilateral maritime

exercise concluded in Bandar Lampung, Indonesia, May 20, following eight days of both ashore and at-sea engagements that enhanced collaboration between the Indonesian and U.S. militaries. This year's exercise marked the 30th iteration of CARAT, and 75 years of diplomatic relations between Indonesia and the U.S.

"We have come to recognize our similarities after a week of training and living side by side," said Col. Sean Dynan, commanding officer, 15th MEU. "Words like honor, courage and commitment describe a common ethos that is so obviously shared between our two navies and Marine Corps. We have learned that a language barrier is not as strong as the bond by those who serve in the field, or on a ship. We've learned that we have different capabilities, but we are both equally capable."

Somerset's penultimate stop was Kuantan, Malaysia, for Exercise Tiger Strike 24. The bilateral exercise, taking place in Kuantan and Kuala Terengganu, Malaysia, occurred between May 29 and June 6. It increased the combined, joint force readiness and amphibious capabilities that can be applied across the range of military operations at sea and shore.

"Strategic engagement with countries, such as Malaysia, reflect the importance of our relationships with Indo-Pacific allies and partners," said Capt. Tate Robinson, commodore of Amphibious Squadron 5.

"Training opportunities, such as Tiger Strike, allow us to work side-by-side with our Malaysian counterparts to refine our common defense requirements and meet national security objectives."

With its mission complete in U.S. 7th Fleet area of operations, Somerset and embarked elements of the 15th MEU, sailed to Hawaii for RIMPAC 2024, the world's largest international maritime exercise, with 29 participating

nations.

Aboard Somerset, a team of engineers from the Consortium for Advanced Manufacturing Research and Education demonstrated the benefits of 3D printing by constructing a critical component of a reverse osmosis pump. The advanced manufacturing project was part of Trident Warrior, the experimentation sector of RIMPAC, dedicated to operational testing new military technology for the warfighter. Notably, the 3D printer used was a hybrid metal printer, the first of its kind to combine subtractive and additive manufacturing.

Also aboard were a team of Army surgeons from the 105th Surgical Augmentation Detachment. The detachment's embarkation marked the first time an Army unit was used in place of a fleet surgical team, testing the interoperability of the U.S. military's medical assets.

Somerset is part of the Boxer Amphibious Ready Group and 15th MEU team, which is a flexible, self-sustained crisis response force, capable of conducting operations from combat missions to humanitarian aid and disaster relief. This team is the premier crisis-response force in the Indo-Pacific region.

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# USS Georgia Operates with Force Reconnaissance Marines and Special Operations Forces

MEDITERRANEAN SEA (July 31, 2024) U.S. Marines from the 2nd Force Reconnaissance Company, assigned to Task Force 61/2, conduct dive operations with Ohio-class guided-missile submarine USS Georgia (SSGN 729) while underway in the Mediterranean Sea July 31, 2024. (U.S. Navy Courtesy Photo)
By U.S. Naval Forces Europe-Africa/U.S. 6th Fleet Public Affairs, Aug. 5, 2024

NAPLES, Italy – The Ohio-class guided-missile submarine USS Georgia (SSGN 729), assigned to Commander, Task Force 69, concluded a series of interoperability training events with Force Reconnaissance Marines from the 2nd Reconnaissance Battalion and special operations forces (SOF) in the Mediterranean Sea, August 5, 2024.

The series of events between joint partners and allied countries demonstrates the ability of Task Force 69 to seamlessly integrate amphibious and special warfare into existing Navy missions in the U.S. 6th Fleet area of operations.

“As our submarine force continues to develop its diverse mission sets, we strengthen our ability to deter threats and ensure global access, security, and stability in the maritime domain,” said Capt. Benjamin Selph, Commander, Task Force 69. “Integration with joint and allied partners enhances our lethality as apex predators against hard targets in the U.S. Sixth Fleet area of operations.”

The purpose of the training was to improve U.S. Marine Corps and SOF integration with conventional naval forces in order to develop and improve tactics, techniques and procedures. Early in the series, Marines from the 2nd Force Reconnaissance Company launched and recovered small craft aboard USS Georgia in order to develop capabilities to execute combined arms attacks, advanced personnel recovery, and expeditionary theater undersea warfare deployments.

“Several of our Marines worked alongside Sailors aboard USS Georgia to facilitate joint operational planning at a level not executed before between the U.S. Marine Corps and the submarine force,” said Major W. Connor Smithson, 2nd Force Reconnaissance Company commander. “Collaboration at this level only acts as a force multiplier to bring out the best of both forces’ capabilities.”

Later in the series, East Coast-based U.S. Naval Special Warfare Operators conducted Submarine-Special Operations Forces interoperability training with USS Georgia, which can host up to 66 SOF personnel, and included participation from the Royal Navy’s Special Boat Service, Norwegian Marinejegerkommandoen, and Italian Gruppo Operativo Incursori.

The training iterations with SOF sought to expand and reinforce SOF interoperability with combined partners and provided a valuable opportunity to build combined SUBSOF communication and control architecture while also conducting critical undersea training and qualifications.

“The scale and importance of the accomplishments made by the teams onboard USS Georgia cannot be over-stated.” said Capt. Selph. “Integration with joint and allied SOF enhances our undersea forces’ ability to respond to any threat with increased speed and lethality.”

USS Georgia is homeported in Kings Bay, Georgia, and is on a routine deployment to the U.S. Sixth Fleet area of operations. While in U.S. Sixth Fleet, Commander, Task Force 69 is responsible for submarine warfare operations in Europe and Africa.

Headquartered in Naples, Italy, U.S. Naval Forces Europe-Africa (NAVEUR-NAVAF) operates U.S. naval forces in the U.S. European Command and U.S. Africa Command areas of responsibility. U.S. Sixth Fleet is permanently assigned to NAVEUR-NAVAF, and employs maritime forces through the full spectrum of joint and naval operations.

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# Revolutionizing Marine Corps Maintenance with AR/VR Technology


[Courtesy Photo] Cpl. Tyler Havard, S3 Schools Non-Commissioned Officer (NCO), 2D Maintenance Battalion, prepares an Augmented Reality lens for use during tele-maintenance between artisans at Marine Depot Maintenance Command's Production Plant in Albany, Ga., and the maintenance team at Marine Wing Communications Squadron 28 (MWCS 28), Cherry Point, N.C.

By Jennifer N. Napier

**MARINE CORPS LOGISTICS BASE ALBANY, GA –** Augmented Reality (AR) and Virtual Reality (VR) are set to play pivotal roles in transforming tele-maintenance operations, ensuring that maintainers are always available to support the Marine on any

front at any time.

**Bridging the Gap**

Tele-maintenance, the remote diagnosis and repair of equipment, has traditionally relied on phone calls and manual instructions. However, the arrival of AR and VR technologies promises to take maintenance capabilities to an entirely new level. By overlaying digital information onto the real world (AR) or creating fully immersive virtual environments (VR), these technologies provide a more intuitive and effective way for technicians to perform maintenance tasks remotely.

AR can significantly enhance the diagnostic process by allowing remote experts to visualize the exact conditions that field technicians are encountering. For instance, a technician wearing AR glasses can receive step-by-step guidance directly in their line of sight, with holographic overlays highlighting parts and tools needed for a specific task. This real-time, hands-free assistance minimizes errors and speeds up the repair process.

**The Pursuit**

Marine Depot Maintenance Command has been experimenting with AR technologies as part of its effort to modernize its maintenance capabilities from industrial-era practices to technologies suitable and capable of meeting the demands of the Information Age. The implementation of the “Industry 5.0 Framework” includes increasing production planning, control, and execution of capabilities by optimizing and automating business processes and optimization of facilities, business processes, and technology. As part of the effort, the command has actively engaged in experimentation and testing of AR capabilities since September 2022 and is gaining a better understanding of how it can be integrated into the command’s current and future capabilities.

**Real-World AR Application: A Case Study**

In May 2024, Marine Wing Communications Squadron 28 (MWCS 28) at MCAS Cherry Point, NC, sought Marine Depot Maintenance Command (MDMC) Business Development's assistance to fix four non-operational electronic maintenance shelters experiencing various electrical problems. Normally, a forward maintenance team would be deployed from one of the command's two production plants in either Albany, Georgia, or Barstow, California, to support this request. Opportunely, the squadron had another option.

At the beginning of the year, the 2D Maintenance Battalion acquired and trained on the same AR equipment that MDMC had been experimenting with. Cpl. Tyler Havard, S3 Schools Non-Commissioned Officer (NCO), 2D Maintenance Battalion, became proficient in the use of the lens through training earlier this year and was able to link up with MWCS 28 to quickly orient the ground electronic maintenance team on how to use the AR equipment.

Using augmented reality, the MDMC team remotely guided Marines through the shelter maintenance and troubleshooting processes and identified and resolved various electrical problems, proving the effectiveness of AR-enabled tele-maintenance in real-time. Cpl. Vradley Cerna, a digital wideband systems maintainer, and Organics NCO, was one of three Marines working on the shelters who collaborated with the depot.

Cerna said that his team has been trained in electrical maintenance and could have attempted to troubleshoot the issues themselves. However, having somebody already familiar with the electronic components and layout of specific shelter models who could guide them step-by-step was immensely helpful and sped up identifying the issues. It was Cerna's first-time using AR lenses. He remarked, "It was a little surprising the first time you put them on to see the features through the lens and hear the maintainers on the other end like they are right there next to you. It was a great experience and an option I would want to use in the future."

Key lessons from this operation highlight the effectiveness of AR for real-time collaboration, significant safety enhancements, and substantial cost savings. Previously, MDMC deployed contact teams on temporary additional duty (TAD), incurring travel costs and disrupting production.

**Training and Skill Enhancement**

The Marine Corps can also leverage AR and VR for training purposes. New and seasoned technicians alike can benefit from virtual simulations that replicate real-world scenarios. Training modules can include various maintenance tasks, from routine checks to emergency repairs, providing a safe and controlled environment to hone their skills.

By simulating real-world conditions, VR training can prepare Marines for the challenges they might face in the field. This immersive experience ensures that they are well-versed in the intricacies of their equipment and can perform under pressure, ultimately leading to higher efficiency and readiness levels.

**Reducing Downtime and Costs**

One of the most significant advantages of AR/VR tele-maintenance is the reduction in equipment downtime. Quick and accurate repairs mean that machinery is back in operation sooner, which is crucial in a military context where readiness is paramount. Additionally, by enabling remote experts to assist with repairs, the need to transport specialized personnel to various locations is minimized, resulting in cost savings and faster response times.

**Overcoming Challenges**

While the potential benefits of AR and VR in tele-maintenance are substantial, there are challenges to be addressed. Ensuring secure and reliable communication channels is critical, as is the need for ruggedized AR/VR hardware that can withstand the harsh environments Marines often operate in.

Moreover, integrating these technologies into existing systems and workflows will require careful planning and training.

**Future Prospects**

As AR and VR continue to evolve, their applications will expand, offering even more sophisticated tools and capabilities across the logistics enterprise. By investing in AR and VR for tele-maintenance, the Marine Corps is not only improving its current operational efficiency but also paving the way for future innovations in military logistics. This forward-thinking approach ensures that Marines remain equipped with the best tools available, ready to tackle any challenge that comes their way.

AR and VR technologies are set to revolutionize the Marine Corps, offering enhanced diagnostics, improved training, reduced downtime, and significant cost savings. As these technologies continue to develop, their integration into military logistics will undoubtedly play a crucial role in maintaining the Marine Corps operational readiness and effectiveness. The successful implementation of AR-enabled tele-maintenance demonstrates advancements in military maintenance operations, showcasing the potential for widespread adoption and efficiency and providing an optimistic outlook for this technology’s future financial and operational benefits.