US Navy Declares Initial Operational Capability for the Next-Generation Jammer Mid-Band System

An EA-18G Growler from VAQ-133 launches from USS Abraham Lincoln (CVN 72). (U.S. Navy photo)
From Naval Air Systems Command, Jan. 6, 2025

PATUXENT RIVER, Md. – The U.S. Navy declared initial operational capability for the Next Generation Jammer Mid-Band (NGJ-MB) system in December, bringing a quantum leap in capability over legacy systems with drastic increases in power, target flexibility and jamming technique for naval aviation operations worldwide.

“Next Generation Jammer Mid-Band improves our fleet’s warfighting advantage in the electromagnetic spectrum,” said

Rear Adm. John Lemmon, Program Executive Officer for Tactical Aircraft Programs. “This system provides enhanced capabilities to deny, distract and disorient adversaries’ radars, protecting our naval aviators and allowing them to carry out their missions in contested airspace.”

The fleet got a preview of the jammer’s high-end capabilities during Abraham Lincoln Carrier Strike Group’s five-month deployment this year. Electronic Attack Squadron (VAQ) 133 deployed with the system aboard the USS Abraham Lincoln (CVN 72), marking the first time Next Generation Jammer Mid-Band was used both deployed and in combat.

IOC signals that the design, testing and production of this capability meet the logistical needs of the carrier air wings and EA-18G Growler squadrons.

“What an incredible day for the U.S. Navy, our Australian partners, and the Airborne Electronic Attack (AEA) community,” said Capt. David Rueter, Airborne Electronic Attack Systems (PMA-234) program manager. “The achievement of NGJ-MB IOC is a positive reflection on the hard work, innovation and resilience from a dedicated team of government and industry professionals who have developed and fielded this critical capability to the warfighters.”

The NGJ-MB system, developed by Raytheon, an RTX business, is part of a larger NGJ system that will augment and ultimately replace the legacy ALQ-99 Tactical Jamming System currently used on the EA-18G Growler. NGJ-MB uses the latest digital, software-based and electronically scanned array technologies and provides enhanced AEA capabilities to disrupt, deny, and degrade enemy air defense and ground communication systems.

“NGJ-MB will boost our fleet’s ability to maintain spectrum dominance. Yielding new capabilities is critical for addressing current and future threats. The era of isolated surface-to-air missile systems, which operate within a non-

agile and limited frequency range, is behind us.” stated Lt. Cmdr. Michael Bedwell, EA-18G Naval Flight Officer and NGJ-MB Deputy Integrated Product Team Lead.

PMA-234 is responsible for acquiring, delivering and sustaining AEA systems, providing combatant commanders with capabilities that enable mission success.

SECNAV Names Navy’s DDG 146 After MoH Recipient, Former U.S. Navy Seal, U.S. Senator and Nebraska Governor Robert Kerrey

From SECNAV Public Affairs, Jan. 4, 2025

WASHINGTON – Today, Secretary of the Navy (SECNAV) Carlos Del Toro named the Navy’s newest Arleigh Burke-class Guided Missile Destroyer, the future USS Robert Kerrey (DDG 146).

DDG 146 honors former U.S. Senator, Nebraska Governor, and naval officer Joseph Robert Kerrey, who received the Medal of Honor for heroism displayed during the Vietnam War. This will be the first Navy vessel named after Kerrey.

“One of the great privileges I have as Secretary of the Navy is to name ships, and it is my honor to name the future USS Robert Kerrey (DDG 146),” said Del Toro. “This will be the first Navy vessel named in his honor, and it is most appropriate we do so, for his actions in Vietnam and his

continued service to this country well beyond his Naval service.”

On Jan 3, Del Toro and Kerrey met in NYC to share the news of the naming of the destroyer. Del Toro named DDG 145 at a press conference at the Intrepid Museum prior to the meeting with Kerrey.

“My sincere thanks to President Biden, Secretary of the Navy Del Toro, and the United States Navy that gave me the opportunity to serve my country for three of the best years of my life,” said Senator Kerrey. “I am very grateful for this recognition.”

Born in Lincoln, NE in 1943 and entering the Navy in 1966, Kerrey completed Officer Candidate School and Basic Underwater Demolition/SEAL training. He deployed to the Republic of Vietnam as a platoon officer with Delta Platoon, SEAL Team 1 in 1969. On 14 March 1969, he led his team on a mission to capture important Viet Cong political leaders who had set up a base of operations on an island in the bay of Nha Trang. The platoon scaled a 350-foot cliff and were descending from a ledge overlooking the enemy camp when a grenade exploded at Kerrey’s feet, severely injuring his right leg and propelling him backward onto jagged rocks. Immobilized by his multiple wounds, Kerrey nonetheless continued directing his team in securing the enemy camp and finding an extraction site for helicopter evacuation. Kerrey ultimately would lose his lower leg, but his steadfast courage and leadership under fire earned the gratitude of his Nation.

He received the Medal of Honor in 1970, the first Navy SEAL to be so honored. He subsequently served as the 35th Governor of Nebraska (1983-1987) and as a U.S. Senator from Nebraska (1989-2001), as well as a member of the 9/11 Commission.

Arleigh Burke-class destroyers, built around the Aegis Combat System, are the backbone of the U.S. Navy’s surface fleet

providing protection to America around the globe.

They incorporate stealth techniques, allowing these highly capable, multi-mission ships to conduct a variety of operations, from peacetime presence to national security, providing a wide range of warfighting capabilities in multi-threat air, surface and subsurface domains. These elements of sea power enable the Navy to defend American prosperity and prevent future conflict abroad.

Future Attack Submarine USS Iowa Delivered to U.S. Navy

From the Navy Office of Information, Dec. 23, 2024

GROTON, Conn. – The U.S. Navy Submarine Force's newest attack submarine, the future USS Iowa (SSN 797) was delivered to the Navy on Dec. 22, 2024, marking the 12th battle force ship delivered to the Navy this calendar year.

SSN 797 is the 24th Virginia-class submarine (VCS) co-produced by General Dynamics Electric Boat (GDEB) and HII-Newport News Shipbuilding through a long-standing teaming agreement and the 13th attack submarine delivered by GDEB.

The boat's delivery represents the official transfer of the submarine from the shipbuilder to the Navy. The submarine and crew will now undertake a series of tests and trials before commissioning into active service and providing additional capability to the fleet.

"The Virginia-class submarine represents a Navy and industry commitment to deliver warfighting excellence to the fleet," said Capt. Mike Hollenbach, Virginia Class Submarine program manager. "Iowa is the second Virginia-class submarine delivered this year. With each delivery, the Navy continues to strengthen our Nation's undersea advantage."

Virginia-class fast-attack submarines provide the Navy with the capabilities required to maintain the nation's undersea supremacy well into the 21st century. They have enhanced stealth, sophisticated surveillance capabilities and special warfare enhancements that enable them to meet the Navy's multi-mission requirements.

Iowa is the sixth of 10 VCS Block IV configured attack submarines. NAVSEA will continue to put more players on the field—to ensure readiness for sustained high-end joint and combined combat.

SSN 797 is the fifth U.S. naval vessel, and first submarine, named after the Hawkeye State. Previous ships named USS Iowa have included the highly decorated USS Iowa (BB 61), commissioned in 1943, which served in World War II and the

Korean and Vietnam Wars.

SSN 797 was christened at GDEB shipyard in Groton, Connecticut, Jun 17, 2023, by the ship's sponsor, Ms. Christie Vilsack. The submarine's commissioning ceremony is slated for Apr. 5, 2025 in Groton.

Recognized as the Force Behind the Fleet, NAVSEA translates warfighter requirements into combat capability, enabling our Nation and our allies to project presence in peace, power in war, and assured access always.

https://www.navy.mil/Resources/Fact-Files/Display-FactFiles/article/2169558/attack-submarines-ssn/

SECNAV Names Navy's DDG 145 for Former Aircraft Carrier

From SECNAV Public Affairs, Jan. 3, 2025

NEW YORK – Today, Secretary of the Navy Carlos Del Toro named the Navy's newest Arleigh Burke-class Guided Missile Destroyer, the future USS Intrepid (DDG 145) aboard the former aircraft carrier which shares its namesake as the Intrepid Museum in New York.

DDG 145 honors the skilled, fearless crews of the four previous Navy ships to bear the name. This will be the fifth ship named Intrepid.

"It is deeply meaningful to stand aboard USS Intrepid—the fourth vessel to bear the name, and whose proud legacy continues to inspire and remind so many visitors of the

courage, resilience and sacrifice that define the U.S. Navy – and it is with profound respect that we also look to the future of our Navy from these decks," said Secretary Del Toro. "It is my pleasure to announce that the fifth vessel named Intrepid will be an Arleigh Burke-class guided-missile destroyer, DDG 145, USS Intrepid, in honor of her past namesakes and the courageous service of all our Sailors globally from the South China Sea to the Red Sea."

The first Intrepid was captured from the Barbary state of Tripoli in December 1803 where she sailed under the name Mastico. In February 1804, she then slipped into Tripoli harbor to set fire to the captured US Navy ship Philadelphia.

The second Intrepid was an experimental steam torpedo ram, operating from 1874 to 1892.

The third Intrepid was a receiving and barracks ship assigned to the Yerba Buena Training Station and Mare Island Naval Yard.

The fourth Intrepid, an aircraft carrier, served from 1943 to 1974. She supported the capture of the Marshall Islands in early 1944. In September, she struck targets in the Palaus and provided close air support to Marines on Peleliu. She helped liberate the Philippines and took part in the Battle of Leyte Gulf in October 1944, where her air wing helped sink or damage three aircraft carriers, four battleships, and a cruiser. She was later hit by multiple kamikazes. She participated in the invasion of Okinawa and attacks on mainland Japan. She was decommissioned in 1947 and recommissioned in 1952, becoming the first carrier to use American-built steam catapults. She supported NATO in the 1950s and 1960s, and recovered several NASA space capsules. Intrepid then joined Seventh Fleet to support combat operations off Vietnam, where she was lauded for her speed in launching aircraft. In 1969, she returned to the North Atlantic, sailing there until decommissioning in

1974. She is preserved as a museum ship in New York City.

“We know this namesake ship will serve our Navy and our nation proudly as the former USS Intrepid did and continues to do, and we couldn’t be more thrilled that it begins its proverbial journey today at the Intrepid Museum,” said Intrepid Museum President Susan Marenoff-Zausner. “For all of its missions, the entire Museum team wishes the ships and its crew safety and success.”

Along with announcing the ship’s name, Secretary Del Toro also announced the sponsor for the future USS Intrepid (DDG 145) as Mrs. Betty Del Toro, who in her role as the ship’s sponsor will represent a lifelong relationship with the ship and crew.

Mrs. Del Toro is not only the wife of Secretary Del Toro but is also a lifelong supporter of the Navy and a steadfast advocate for Sailors and Marines. She served as a military spouse for 22 years, encompassing 17 military moves. She is passionate about matters that involve military families and children. Over the last three years, she has met with hundreds of service members, spouses and dependents.

“I am especially proud to serve as sponsor for a ship whose name embodies American courage and resilience,” said Betty Del Toro. “Having had the honor and opportunity to stand alongside my husband throughout his active duty Navy career and as the 78th Secretary of the Navy, I embrace this new role— one which emphasizes something that is deeply important to me; supporting Navy Sailors and Marines, and their families.”

Arleigh Burke-class destroyers, built around the Aegis Combat System, are the backbone of the U.S. Navy’s surface fleet providing protection to America around the globe. They incorporate stealth techniques, allowing these highly capable, multi-mission ships to conduct a variety of operations, from

peacetime presence to national security, providing a wide range of warfighting capabilities in multi-threat air, surface and subsurface domains. These elements of sea power enable the Navy to defend American prosperity and prevent future conflict abroad.

CENTCOM Forces Strike Multiple Houthi Targets in Yemen

From U.S. Central Command, Dec. 31, 2024

TAMPA, Fla - U.S. Central Command (CENTCOM) forces conducted multiple precision strikes against Iran-backed Houthi targets in Sana’a and coastal locations within Houthi-controlled territory in Yemen, Dec. 30 and 31.

On Dec. 30 and 31, U.S. Navy ships and aircraft targeted a Houthi command and control facility and advanced conventional weapon (ACW) production and storage facilities that included missiles and uncrewed aerial vehicles (UAV). These facilities were used in Houthi operations, such as attacks against U.S. Navy warships and merchant vessels in the southern Red Sea and Gulf of Aden. In addition, U.S. Navy and U.S. Air Force aircraft destroyed a Houthi coastal radar site and seven cruise missiles and one-way attack UAVs over the Red Sea.

There were no injuries or damage to U.S. personnel or equipment in either incident.

The strikes are a part of CENTCOM’s effort to degrade Iran-backed Houthi efforts to threaten regional partners and

military and merchant vessels in the region.

CENTCOM Conducts Airstrikes Against Iran-Backed Houthi Missile Storage and Command/Control Facilities in Yemen

From U.S. Central Command, Dec. 21, 2024

TAMPA, Fla. – U.S. Central Command (CENTCOM) forces conducted precision airstrikes against a missile storage facility and a command-and-control facility operated by Iran-backed Houthis within Houthi-controlled territory in Sana'a, Yemen, on Dec. 21 Yemen time.

CENTCOM forces conducted the deliberate strikes to disrupt and degrade Houthi operations, such as attacks against U.S. Navy warships and merchant vessels in the Southern Red Sea, Bab al-Mandeb, and Gulf of Aden.

During the operation, CENTCOM forces also shot down multiple Houthi one way attack uncrewed aerial vehicles (OWA UAV) and an anti-ship cruise missile (ASCM) over the Red Sea.

The operation involved U.S. Air Force and U.S. Navy assets, including F/A-18s.

The strike reflects CENTCOM's ongoing commitment to protect U.S. and coalition personnel, regional partners, and international shipping.

Northrop Grumman to Deliver

US Navy's E-130J Nuclear Command, Control and Communications Aircraft

The Northrop Grumman-led industry team will deliver the E-130J for the U.S. Navy's TACAMO mission. (Credit: Northrop Grumman)

MELBOURNE, Fla. – Dec. 18, 2024 – Northrop Grumman Corporation (NYSE: NOC) has been selected as the prime contractor to deliver nuclear command, control and communications (NC3) aircraft for the U.S. Navy's Take Charge And Move Out (TACAMO) mission. The Northrop Grumman-led industry team will deliver the E-130J to relieve the U.S. Navy's current E-6B Mercury fleet of the TACAMO mission.

- Northrop Grumman has invested more than $1 billion in digital engineering and manufacturing capabilities that

will assist in rapidly designing, building, testing and sustaining the E-130J.

- The company has been a key industry partner with the U.S. Navy as a prime aeronautics manufacturer for decades by serving as the prime contractor on the U.S. Navy's E-2D Advanced Hawkeye and the MQ-4C Triton as well as providing support for the E-6B Mercury TACAMO fleet.

- The effort will incorporate Northrop Grumman's technology leadership in advanced manufacturing, agile design, digital engineering and weapon system integration expertise to take advantage of Day One readiness across the Northrop Grumman-led industry team .

Expert:

Jane Bishop, vice president and general manager, global surveillance division, Northrop Grumman: "Our performance on Navy programs like the E-2D and E-6B prove we deliver on what we promise, and we will bring this expertise in helping the Navy deliver the E-130J on time and optimized for this strategically important mission."

Details:

The U.S. Navy's TACAMO mission provides connectivity between the National Command Authority and U.S. nuclear forces. The Navy currently operates a fleet of E-6B Mercury aircraft to provide survivable, reliable and endurable airborne command, control and communications between the National Command Authority and U.S. forces. The E-130J will modernize this critical strategic deterrent mission.

Northrop Grumman’s E-130J TACAMO industry team of Lockheed Martin Skunk Works ®; Raytheon; Crescent Systems, Inc; and Long Wave Inc. has vast knowledge and expertise in delivering critical command and control and nuclear enterprise capabilities to meet the U.S. Navy’s E-130J TACAMO requirement.

U.S. Navy Completes Final Testing Milestone for Unmanned Surface Vessel Program

The unmanned surface vessel (USV) Ranger steams alongside the USV Mariner as both ships transit the Pacific Ocean during a

photo exercise as part of Integrated Battle Problem (IBP) 23.2, Sep. 7, 2023. IBP 23.2 is a Pacific Fleet exercise to test, develop and evaluate the integration of unmanned platforms into fleet operations to create warfighting advantages. (U.S. Navy photo by MC2 Jesse Monford)
By Program Executive Office Unmanned and Small Combatants (PEO USC) Public Affairs, Dec. 18, 2024

WASHINGTON – The U.S. Navy recently achieved its final key milestone in the development of Unmanned Surface Vessel (USV) integrated capabilities by successfully completing a continuous 720-hour power demonstration on an engine system for use aboard future USVs. This demonstration is part of a larger USV testing effort to assess the capability and resilience of engine systems to operate autonomously for extended periods. The latest test marked the final system to be evaluated. Engine development and operation is critical for the expansion of unmanned naval operations and for realizing the future vision of a manned-unmanned Hybrid Fleet.

The 2021 National Defense Authorization Act directed the Navy to complete the 720-hour test milestone before initiating development on large USVs. In the final engine test, Precise Power Systems conducted testing on behalf of Austal USA. Testing took place at Daimler Trucks North America Aftermarket Solutions in Tooele, Utah, from June 19 to September 5. The Navy's Program Executive Office Unmanned and Small Combatants (PEO USC) and the Unmanned Maritime Systems program office (PMS 406) oversaw the demonstration.

"This milestone marks a pivotal advancement in our naval strategy, as it enhances our capabilities in unmanned operations," said Rear. Adm. Kevin Smith, head of PEO USC. "Successfully demonstrating a power system that can sustain autonomous operations for 30 days without maintenance not only bolsters our readiness but also sets the stage for a truly integrated manned-unmanned Fleet, ensuring we remain at the forefront of maritime innovation."

During the 720-hour test, no human intervention, corrective, or preventative maintenance was allowed on the equipment. Successfully completing this milestone means the tested model engine, MTU 8V4000M24S, is eligible for future use aboard USV platforms. It indicates that propulsion systems are mature enough to power an unmanned ship for 30 days without requiring maintenance. The team developing the engine will apply lessons learned during the test to enhance future models to increase reliability even more than demonstrated.

Prior to this test, five teams successfully completed their separate 720-hour testing milestones. The successful teams include:

- Bollinger and Carter Machinery on behalf of Caterpillar in Chesapeake, Virginia was the first team to achieve this milestone in December of 2023. They demonstrated sufficient mechanical reliability of the 1550 kw Caterpillar 3512C model engine.

- Fincantieri Marinette Marine (FMM) and Carter Machinery on behalf of Caterpillar in Chesapeake, VA demonstrated mechanical durability of the Caterpillar 2300 kW rated 3516 main propulsion diesel, lube oil and fuel system.

- Gibbs & Cox and Southwest Research Institute in San Antonio, Texas on behalf of Cummins also validated the reliability of the QSK95 diesel engine paired with an ABB AMG 0560M04 LAE generator.

- Huntington Ingalls Incorporated (HII), in partnership with the U.S. Coast Guard, conducted a successful 720-hour demonstration on behalf of MTU of the MTU 20V 4000 M93L, a Main Propulsion Diesel Engine configuration.

- L3 Harris, on behalf of Cummins, validated the reliability of the QSK60 diesel engine, a Main Propulsion Diesel Engine configuration, and the QSM11, a Marine Diesel Generator Set in Camden, New Jersey.

“This milestone is a significant step forward in the continued development of integrated unmanned surface capabilities. The successful execution of these tests highlights our commitment to deliver cutting-edge solutions that can meet the evolving needs of our Fleet,” said Capt. Matthew Lewis, program manager of the Unmanned Maritime Systems program office.

The Navy’s Unmanned Maritime Systems program office is a part of the Program Executive Office Unmanned and Small Combatants portfolio, which designs, develops, builds, and delivers the Navy’s unmanned maritime systems; mine warfare systems; special warfare systems; expeditionary warfare systems; and small surface combatants.

USS Beloit (LCS 29) Makes It Home to Mayport

From U.S. 4th Fleet, Dec.10, 2024

NAVAL STATION MAYPORT (Dec. 19, 2024) – Freedom-variant littoral combat ship (LCS) USS Beloit (LCS 29) makes it to her homeport in Mayport, Fla., December 19.

After 15 locks, four Great Lakes, three port visits, and over 2,500 nautical miles traveled, USS Beloit (LCS 29) and her mighty crew at last arrived in the Atlantic Ocean, continuing her transit to its future homeport, Naval Station Mayport, Florida.

The road to make it to the Atlantic Ocean included months of preparation from the crew. In less than two months after moving onboard in August, the crew certified in several mission areas required to safely operate and get underway including: Search and Rescue, Navigation, Damage Control, Communications and Engineering.

“The Beloit Badger crew are some of the best Sailors I have served with. They are resilient, strong, flexible and dedicated, and I am blessed to be their Commanding Officer. Almost everything we have done in the past five months has been ‘high risk’ and ‘first time’, but that’s what makes us so unique,” said Cmdr. LeAndra Kissinger, Beloit’s commanding officer. We work hard, pray hard, and lean on each other as a team. We truly are a family, and when a family wants to accomplish a mission, it’s hard to stop them.”

Each evolution, although involving different departments on the ship, required careful coordination and support from each division and Sailor onboard and was necessary for the crew to be able to set sail from Marinette, Wisconsin, towards the site of its commissioning ceremony in Milwaukee, Wisconsin.

On November 23, the crew took the order to “man the ship and bring her to life.” Amongst thousands of onlookers, the ship made its much anticipated transition from pre-commissioned unit to United States Ship and began her sail around home.

Her commissioning festivities included a crew visit to their namesake town of Beloit, a Chairman’s dinner hosted by the Commandant, and a commissioning ceremony who’s audience was filled with veterans from many significant battles. Along the way, she stopped in Cleveland, Ohio, Quebec City, Quebec and Halifax, Nova Scotia, and Norfolk for refueling, stores replenishment and liberty for the crew.

“This crew has shown tremendous resilience in overcoming the last 4 months. Completing difficult consecutive certifications while learning a new ship and being away from family. This team made it look easy and brought a whole new meaning to the term “Beloit Proud,” said Senior Chief David Chisholm, Beloit’s Senior Enlisted Leader. “Watching them perform under pressure and overcoming every obstacle with grace shows just how awesome our team is and their readiness to face the challenges ahead after some much needed and well-deserved family time. It is an honor to be sailing with them and representing the city of Beloit.”

Capt. James Lawrence said it best, “Don’t give up the ship.” And that’s exactly what this crew did to get us home on time!” said Operation Specialist first class petty officer Ernesto Sanchez, USS Beloit’s Sailor of the Year!

With the last port fading in the rear only a few hundred nautical miles remain before Jacksonville is within view, the crew is eagerly awaiting returning to their families and friends, and ready to take on the next mission that will come their way as the Navy’s newest warship join the fleet!

LCS is a fast, agile, mission-focused platform designed for operation in near-shore environments yet capable of open-ocean operation. It is designed to defeat asymmetric “anti-access” threats and is capable of supporting forward presence, maritime security, sea control, and deterrence.

VAQ-133 “Wizards” complete

historic first Next Generation Jammer Deployment

An EA-18G Growler from VAQ-133 launches from USS Abraham Lincoln (CVN 72). (U.S. Navy photo)
From VAQ-133, Dec. 16, 2024

VAQ-133 returns from a five-month deployment as the first Navy squadron to tactically employ the ALQ-249 Next Generation Jammer.

WHIDBEY ISLAND, Wash.- Electronic Attack Squadron 133 (VAQ-133), assigned to Carrier Air Wing Nine (CVW) 9, returned from the Abraham Lincoln Carrier Strike Group's (ABECSG) five-month deployment to the Middle East and Eastern Pacific to Naval Air Station Whidbey Island in time for the holidays, Dec. 14, 2024.

The 153 Sailors, 18 aircrew, and seven EA-18G Growlers of the

“Wizards” of VAQ 133 departed Naval Air Station North Island, San Diego, July 13, 2024.

The Wizard’s deployment marked a historic milestone, as the squadron became the first in the Navy to deploy with the ALQ-249 Next Generation Jammer (NGJ). Throughout their rigorous training and deployment, the Wizards demonstrated the future of Airborne Electronic Attack (AEA) by developing new tactics, achieving the first NGJ arrested landing, and tactically employing the system.

“This deployment showcased the cutting-edge capabilities of the NGJ and reinforced the critical role of the Growler community in modern warfare,” said Cmdr. Erik Dente, commanding officer, VAQ-133. “More importantly, it demonstrated the skill, dedication, and perseverance of every VAQ-133 Sailor and the families, friends, and loved ones who supported them at home. I could not be more proud of the Sailors, aircrew, and support teams who made this deployment an overwhelming success.”

The Wizards began and concluded their deployment in U.S. 7th Fleet, executing key training missions in support of U.S. Indo-Pacific Command and participating in a Multi-Large Deck Exercise (MLDE) with the Italian Navy’s ITS Cavour Carrier Strike Group and conducting operations in the South China Sea to promote a free and open Indo-Pacific.

The strike group was ordered to the U.S. Central Command (CENTCOM) area of responsibility to bolster U.S. military force posture in the Middle East, deter regional escalation, degrade Iranian-backed Houthi capabilities, defend U.S. forces to promote security, stability and prosperity.

While operating in the Middle East, the Wizards played a key role in supporting CENTCOM objectives, participating in dual-

carrier operations with the USS Theodore Roosevelt (CVN 71), flying critical combat missions to ensure the safety of deployed U.S. Forces, and aiding in strikes to degrade Iranian-backed Houthi weapons storage capabilities.

“This deployment will go down in history,” said Command Master Chief Frederick Tuiel command master chief, VAQ-133, summing up the deployment. “While it wasn’t filled with port visits, it was defined by impactful combat operations—experiences our Sailors will share for years to come. Bringing everyone home safely makes the accomplishment even sweeter.”

The squadron earned the Commander Electronic Attack Wing Pacific (CVWP) Golden Wrench Award for maintenance excellence demonstrating the Wizard’s dedication to excellence. Wizard maintainers sustained 100% Growler mission-readiness throughout the deployment enabling the successful completion of all assigned missions.

“The dedication of the sailors of VAQ-133 was second to none,” said Dente. “Their hard work kept our Growlers fully mission capable and ensured every mission was a success. Whether from administration, operations, safety, maintenance, intelligence, or food service and support divisions – it took every sailor to build and maintain the combat power required during our operations.”

In addition to operational accomplishments, the deployment included port calls to Guam in August and Kuala Lumpur in November, offering Sailors a chance to recharge and experience diverse cultures while supporting U.S. partner nations.

Returning home before the holidays, VAQ-133 is looking forward to reuniting with their families and friends, reflecting on their achievements and continuing to embody the squadron catch phrase to “Push it up!”
ABECSG completed more than 11,600 flight hours comprised of

5,500 sorties and over 4.400 fixed-wing aircraft launches and arrestments throughout its five-month deployment. The embarked CVW-9 is next-generation, multiplatform capable that enables advance mobile projection of naval air power and forward operational presence.

CVW 9 consists of nine squadrons flying the F-35C Lightning II, F/A-18E/F Super Hornet, EA-18G Growler, E-2D Hawkeye, C-2A Greyhound, and MH-60R/S Sea Hawk. The squadrons are the "Tophatters" of Strike Fighter Squadron (VFA) 14, the "Black Aces" of VFA 41, the "Vigilantes" of VFA 151, the "Black Knights" of VMFA 314, the "Wallbangers" of Airborne Command and Control Squadron (VAW) 117, the "Wizards" of Electronic Attack Squadron (VAQ) 133, the "Raptors" of Helicopter Maritime Strike Squadron (HSM) 71, the "Chargers" of Helicopter Sea Combat Squadron (HSC) 14, and the "Rawhides" of Fleet Logistics Support Squadron (VRC) 40.

ABECSG consists of the flagship USS Abraham Lincoln (CVN 72), embarked staffs of Carrier Strike Group (CSG) Three and Destroyer Squadron (DESRON) 21, Carrier Air Wing (CVW) Nine, integrated air and missile defense Arleigh Burke-class guided missile destroyer USS Frank E. Petersen Jr. (DDG 121), and DESRON 21's USS Spruance (DDG 111) and USS Michael Murphy (DDG 112).

Arleigh Burke-class guided-missile destroyers USS O'Kane (DDG 77) and USS Stockdale (DDG 106) remain deployed in the 5th Fleet area of operations supporting global maritime security operations.

Navy’s NEPTUNE Program Accelerates Maritime Innovation Through University Partnerships

Stanford’s Hacking for Defense Program Helps Drive Rapid Technology Transition from Lab to Fleet

From the Office of Naval Research

STANFORD, Calif., December 18, 2024 – The U.S. Navy’s Office of Naval Research (ONR) is revolutionizing maritime technology development through its NEPTUNE program (Naval Enterprise Partnership Teaming with Universities for National Excellence), by demonstrating the vital role of academic-military collaboration in advancing national defense capabilities. Led by Dr. Corey Love, NEPTUNE has established strategic partnerships with leading institutions including Stanford University, MIT, Purdue University, UC Davis, Arizona State University, Old Dominion University, and the Naval Postgraduate School. These partnerships are proving instrumental in rapidly transitioning innovative technologies from laboratory concepts to operational naval assets. This initiative is not just about developing new technologies; it’s about shaping the future of naval warfighting capabilities and ensuring the resilience of our forces in the face of evolving threats. This is particularly important given hostilities in Ukraine and the Middle East, as well as rising tensions with China, Iran, Russia and North Korea.

“The NEPTUNE program exemplifies the kind of innovative partnerships we need to accelerate defense technology development,” says Dr. Jeff Decker, managing director of the Tech Transfer for Defense program at Stanford University’s

Doerr School of Sustainability, and program director and co-instructor of Stanford University's Hacking for Defense® program, as well as author of "The Hacking for Defense Manual." "By connecting academic researchers directly with military end-users, we're seeing remarkable acceleration in the development and deployment of critical technologies."

A standout example of NEPTUNE's success comes from MIT, where Professor Steven Leeb's team has developed a groundbreaking Combat Power Monitor (CPM) system, using their research in energy management and monitoring to demonstrate progress in technology readiness in an area that is critical to the operational readiness, effectiveness and efficiency of naval vessels and U.S. Coast Guard (USCG) warships. The team's contributions, particularly in the development of technologies for supporting condition-based maintenance and energy economization, are proving to be invaluable assets to the U.S. Navy and U.S. Coast Guard. Active demonstrations have been conducted and are continuing on serving USN warships and U.S. Coast Guard cutters.

"We are now seeing game-changers flow through the innovation pipeline in less time," says Justin Fanelli, acting chief technology officer for the U.S. Department of Navy. "We have implemented and are looking for more ways to improve the time from concepts to outcomes; one thing is certain – great ideas and hustlers are essential for us to move at the speed of relevance. With Professor Leeb's work, the ability to monitor and manage energy usage on ships ensures that our vessels can operate longer, with greater endurance, and with reduced logistical footprints. This is particularly crucial in scenarios where resupply may be challenging or in stealth operations where minimizing energy signatures is vital."

The NEPTUNE program plays a pivotal role in advancing research from early-stage concepts to more mature, deployable technologies. By propelling basic scientific research (Technology Readiness Level, or TRL 2) towards prototype

demonstration in an operational environment (TRL 7), NEPTUNE ensures that innovative ideas are not left in the laboratory but are instead developed into practical solutions to naval challenges. This progression involves a systematic approach to technology development, where initial theoretical studies and proof-of-concept (TRLs 2-4) are followed by increasing levels of integration and testing in relevant environments (TRLs 5-6), culminating in prototype demonstrations that prove the technology's effectiveness in real-world naval settings (TRL 7). Through this structured pathway, NEPTUNE accelerates the transition of cutting-edge research into tangible assets that enhance the Navy's warfighting capabilities and operational resilience.

This initiative demonstrates how academic-military partnerships can yield transformative results, particularly vital given current global challenges including situations in Ukraine and the Middle East, as well as evolving maritime security needs.

NEPTUNE support made it possible for the MIT team to move from an advanced concept to a deployed prototype in 24 months. The NEPTUNE partnership between the Navy and academia is a powerful formula for innovation. By leveraging the expertise and creativity of university researchers, the Navy is able to accelerate the development of technologies that are essential for maintaining its edge in an increasingly competitive and complex global security environment.

"As we look to the future, the importance of programs like NEPTUNE cannot be overstated," noted Fanelli. "The challenges facing the Navy and the broader national security landscape are becoming more diverse and sophisticated. Adversaries are rapidly advancing their capabilities, and the technological gap is narrowing. In this context, the Navy's ability to innovate and adapt is not just a matter of maintaining superiority; it's a matter of national security."

The NEPTUNE program represents a strategic investment in the future of naval warfare. It is a model of how collaboration between the military and academia can yield transformative results. As we continue to navigate the uncertain waters of the 21st century, initiatives like NEPTUNE will be the beacon that guides the Navy toward a future where it remains the preeminent maritime force, capable of ensuring peace and security in an ever-changing world.

To learn more about the ONR Investment Horizons framework, visit onr.navy.mil; for more information on the Technology Transfer for Defense program at Stanford University, visit techtransferfordefense.stanford.edu.