Sea-Air-Space: New Pit-Stop Approach Can Cut Engine Overhaul from Months to Days, FMD Says

Fairbanks Morse Defense workers overhaul an engine using the “pit stop” method. *Photo credit: Fairbanks Morse Defense*

Imagine if a Navy ship could pull into a pit stop like a race car, get its engine overhauled and be back on the seas in less

than a month. That’s what the team at Beloit, Wisconsin-based Fairbanks Morse Defense (Booth 1537) envisioned years ago, and now it’s a reality.

“Maintenance has traditionally taken way too long and cost too much money,” said Keith Haasl, FMD’s president of service and technology.

Haasl notes that a traditional Navy ship engine overhaul, including disassembly, inspection, repair, and reassembly, can take up to nine months. But FMD’s pit-stop approach can take as little as 26 days for ship service generators and 38 days for main propulsion engines.

Haasl said FMD did its first pit stop in early 2024 on a ship service generator. Since then, FMD has overhauled eight generators and three main propulsion engines on landing ship, dock-class vessels using the new approach.

“It’s been really successful. The fleet likes it. Our partners at NAVSEA [Naval Sea Systems Command] like it, and we sure like it,” Haasl said. “It’s revolutionized the way the Navy is doing maintenance and how NAVSEA is structuring their Class Maintenance Plans.”

Rethinking Strategy

Basically, FMD’s pit-stop approach involves rethinking the entire engine overhaul strategy.

Historically, ship engines have been overhauled using an “open and inspect” method. “It was really like incremental discovery. You open up the engine on the ship, take the measurements, inspect it, write the report, go to the customer for approval, get the replacement parts, install them, and then reassemble the engine,” Haasl said. “All of this is going on while there’s sanding and painting and welding on the ship, which increases the risk of engine contamination.”

The pit-stop approach begins with technicians bringing a standardized kit of original equipment manufacturer parts, which are replaced onsite no matter what the engine's condition. These parts are included in the kit because they're essential to engine performance.

The parts that are removed from the ship's engine are taken to the FMD facility, where they're refurbished, inspected, and certified in a controlled environment. These parts are then used in the next standardized kit for an engine overhaul on another ship. This helps save time and costs by avoiding supply-chain issues and ensuring replacement parts are always available as needed.

The pit-stop approach also reduces engine overhaul time and costs in other ways.

"We're doing work pier side, so there are no docking costs. The costs of parts are significantly lower because we're remanufacturing parts that might have been replaced with new parts under the old method," Haasl said. "All of those efficiencies we can gain are tremendous."

Sea-Air-Space: Textron Offers the Tsunami USV Family for Multi-Purpose Navy Use

Tsunami, a small USV, is a joint effort by Textron Systems and Brunswick Corp. *Photo credit: Textron Systems*

Textron Systems (Booth 1827, D1), originator of the Common Unmanned Surface Vehicle (CUSV) in U.S. Navy service, has developed a less expensive USV that could be used for a variety of missions and could even be considered attritable.

Textron is teamed with Brunswick Corp., a small craft manufacturer, to offer Tsunami, family of deployable, small, scalable, gasoline-powered outboard-engine craft, with hull lengths ranging from 14 to 42 feet long. Certain of the models have a payload capacity of 1,000 pounds, ranges between 600 and 1,000 nautical miles, and operable in Sea State 4.

“We are the originator of the common uncrewed surface vehicle, the CUSV, for the Navy which was successfully adapted to become the Navy’s first unmanned surface vehicle program of record and which is being fielded to the littoral combat ship fleet now [for mine countermeasures],” said David A. Phillips, senior vice president, Air, Land & Sea Systems, Textron Systems, in a briefing to reporters. “Surface warfare that

doesn’t necessarily require the power and the weight necessary in a mine countermeasure system.”

Phillips noted several mission sets that an inexpensive unmanned craft could take on, including port security, port surveillance, escort and training.

“We have been in constant collaboration with Navy and commercial customers as to what a system like this might bring them in terms of operational flexibility [and] emerging mission sets,” he said. We continue discussion with the Navy – all elements of the Navy to include fleet as well as our particular programs in which we work. And we’ve been hearing an increased expression of interest in a small, rapidly deployable, unmanned surface vehicle that can support a variety of missions beyond mine countermeasures.”

Brunswick, builder of recreational watercraft of such product lines as Boston Whaler, Bayliner and Mercury Marine, has craft adaptable to Textron’s vision and has established supply lines.

“Brunswick’s portfolio of reliable high-performance vessels – their watercraft, propulsion systems, control systems – and manufacturing capacity and their global footprint along with our mature autonomy technology and systems integration capability was really the perfect combination to allow us to develop an accessible, rapidly deployable, and what I call a modular open systems architecture oriented family of vehicles or systems,” Phillips said.

“Brunswick’s technologies are already in mass commercial production and globally available. That allows us to reduce costs, risk, and production time when integrating and ultimately delivering these vessels. Their global footprint and mature resilience supply chain provides our customers with an unmatched support and aftermarket service.”

Brunswick “has invested in and developed a built-in drive-by-

wire system for us to ramp our higher levels of operationally relevant autonomy that we've developed and delivered to the U.S. Navy and that we've proven through mine countermeasure unmanned surface vehicles and that we fielded operationally with the Navy and demonstrated through exercises like RIMPAC and FLEX," he said.

Phillips said the Tsunami could be fielded rapidly.

"We recognize the need for a ready-now solution that harnesses the capability and capacity of the U.S. industrial base," he said. "That's important at being able to scale and being able to rapidly deploy systems when our customer wants them. … Speed. Speed to market. Speed to contract. Speed to delivery. Leveraging this mature production capability enables rapid production without the costs and risks of developing boutique manufacturing capability and scaling mass production. These watercraft are already in production."

The Tsunami craft is adaptable to swarming tactics, according to Textron.

"We've also done some testing in that realm," Phillips said. "Although I'm not going to go into certain mission scenarios, the swarm is important and controlling multiple systems is important. We've done that for many years with our aircraft systems. We understand swarming of systems. We also understand the complexity associated with that. We have designed this system and we have demonstrated this system to operate multiple watercraft. I won't get into how many."

The low cost of the Tsunami is key to the craft being attritable, Phillips said.

Asked by *Seapower* if the USVs used by Ukraine against the Russian navy were part of the inspiration for the Tsunami, Phillips replied that "it certainly informed us of that emergent need. … I am not presupposing what one of our customers might use our system for."

Navy to Commission Submarine Iowa

From the U.S. Navy Office of Information, Apr. 4, 2025

GROTON, Conn. – The Navy will commission the 24th Virginia-class fast-attack submarine, the future USS Iowa (SSN 797), during a 10 a.m. EST ceremony Saturday, April 5, at Naval Submarine Base New London, Conn.

Iowa Governor Kim Reynolds will deliver the principal address. Additional speakers are set to include Secretary of the Navy John Phelan; Adm. Daryl Caudle, Commander, Fleet Forces Command; the Honorable Richard Blumenthal, U.S. Senator from Connecticut; the Honorable Joe Courtney, U.S. Representative from Connecticut; and Mark Rayha, president, General Dynamics Electric Boat.

The submarine's sponsor is former Iowa first lady Christie Vilsack, an educator with a 50-year career in public service. She and her husband, the Honorable Tom Vilsack, former Secretary of Agriculture, live in rural Iowa and continue to support domestic and international education and agriculture programs. In keeping with Navy tradition, she will give the crew the order to "man our ship and bring her to life." With the hoisting of the colors and commission pennant, Secretary Phelan will formally place the ship in active service.

The future Iowa is the fifth naval vessel named for the state and, once commissioned, will be the third placed in service. Battleships named for the Hawkeye State include USS Iowa (BB 4), which commissioned in 1897 and saw action in the Spanish-American War and World War I, and the highly decorated USS Iowa (BB 61), which commissioned in 1943 and served in World

War II and the Korean and Vietnam Wars.

Each Virginia-class submarine is 7,800-tons and 377 feet in length, has a beam of 34 feet, and can operate at more than 25 knots submerged. It is designed with a reactor plant that will not require refueling during the planned life of the ship, reducing lifecycle costs while increasing underway time. Iowa is designed with stealth, surveillance capabilities and special warfare enhancements to meet the Navy's multi-mission requirements. Its keel was authenticated on Aug. 20, 2019, and it was christened on June 17, 2023.

The submarine was built under a unique teaming agreement between General Dynamics Electric Boat and HII-Newport News Shipbuilding; both companies build certain portions of each submarine and then alternate deliveries. SSN 797 is the 13th Virginia-class submarine delivered by GDEB.

The commissioning of USS Iowa symbolizes the Navy's 250-year commitment to innovation and maritime dominance. From seabed to space, the Navy delivers power for peace – always ready to fight and win. Iowa's cutting-edge capabilities represent the Navy's dedication to maintaining a powerful maritime force for the future. This ceremony celebrates not just the commissioning of the Navy's newest warship, but the Navy's enduring legacy and commitment to shaping the future of maritime power.

The commissioning ceremony will be streamed live at: https://www.dvidshub.net/webcast/35621.

U.S. Northern Command Maritime Assets Support Southern Border Operations

Members of a U.S. Coast Guard Law Enforcement Detachment and U.S. Navy Sailors assigned to the Arleigh Burke-class guided-missile destroyer USS Spruance (DDG 111) conduct small boat operations in the Pacific Ocean, March 26, 2025. (U.S. Navy photo by MCSN Joey Sitter)

01 April 2025

PETERSON SPACE FORCE BASE, Colo. – U.S. Northern Command (USNORTHCOM) maritime assets, including the Arleigh Burke-class guided-missile destroyers USS Spruance (DDG 111) and USS Gravely (DDG 107), are actively supporting southern border operations at sea in partnership with the U.S. Coast Guard.

Spruance, deployed off the coast of Southern California, recently provided vectoring assistance to U.S. Coast Guard

(USCG) Cutter Forrest Rednour (WPC-1129) and Customs and Border Protection Air and Marine Operations interceptor M857 in intercepting a suspect vessel, which resulted in 13 persons taken into custody. Spruance also recently rendered assistance to distressed people when a 35-foot panga was spotted taking on water in international waters, approximately 50 miles southwest of San Diego. Spruance launched a 7-meter rigid hull inflatable boat crew and rescued 18 individuals, including one U.S. citizen. Watchstanders from Coast Guard Sector San Diego launched a USCG MH-60 Jayhawk, which transported the persons from Spruance to Coast Guard Sector San Diego.

“The US Navy and US Coast Guard partnership on display in the maritime domain highlights our commitment to national security priorities,” said Gen. Gregory Guillot, Commander, U.S. Northern Command. “USS Gravely is currently operating off the coast of Texas, while USS Spruance has been deployed to the coast of Southern California. Their capabilities and the dedication of their crews enable a robust response in combating illegal maritime activities into the Unites States such as drug and human trafficking. The message here is clear: our resolve to achieve operational control of the border is all-domain, coordinated, and absolute.”

Spruance and Gravely are each accompanied by an embedded U.S. Coast Guard Law Enforcement Detachment (LEDET). Founded in 1982, Coast Guard LEDETs carry out a variety of maritime interdiction missions, including counter-piracy, military combat operations, alien migration interdiction, military force protection, counter terrorism, homeland security, and humanitarian response.

Spruance, Gravely and their embedded USCG LEDETs bring maritime capabilities to the USNORTHCOM area of responsibility in response to Presidential executive orders and a national emergency declaration and clarification of the military’s role in protecting the territorial integrity of the United States.

USNORTHCOM was named the DoD’s operational lead for the employment of U.S. military forces to carry out President Trump’s southern border Executive Orders. The combatant command continues to support critical DHS capabilities gaps.

Marines, Air Force Fight as Joint Force for First Time in Navy’s Joint Simulation Environment

From Naval Air Warfare Center Aircraft Division, Apr. 1, 2025

NAS PATUXENT RIVER, Md. – For the first time, U.S. Marine Corps F-35 and Air Force F-22 pilots trained as a joint

fighting force in the Naval Air Warfare Center Aircraft Division's (NAWCAD) Joint Simulation Environment (JSE) at Naval Air Station Patuxent River, March 24-27.

The training event brought eight U.S. Marine Corps F-35s to train alongside four Air Force F-22 Raptors in the DOD's most advanced digital test and training range.

"This milestone is a game-changer that ushers in a new era of interoperability for aviation's combat community and served as a pivotal exercise getting NAWCAD ready to make this joint training standard for Navy and Air Force fighters starting this spring," said NAWCAD Commander Rear Adm. John Dougherty IV.

During the event, F-35B and F-35C pilots from Marine Fighter Attack Squadrons (VMFA) VMFA-122, VMFA-225, and VMFA-311 trained with several F-22 pilots from the Combat Air Forces and test community. Over two days, F-35 and F-22 pilots practiced fifth generation fighting together in 17 simulated combat missions against advanced enemy threats only available at JSE. After each mission, the pilots reviewed their performance using cockpit video and audio recordings.

"The cross talk [while training in the JSE] is unparalleled in terms of being able to talk tactics [and] actually get in the same room with people," said F-22 pilot Capt. Brett Myer. "It helps iron out a lot of the small details that really matter when it comes down to it."

Real world training on open-air ranges at this scale is expensive, difficult to coordinate, and lacks a realistic threat environment. The JSE solves this problem by providing defense aviation a secure simulated range that puts pilots in threat environments not replicable in real life.

"At the end of the day, it's going to be the people that win our nation's wars," said VMFA-225 pilot Maj. Patrick Hoffer. "Having those person-to-person connections between the Air

Force, the Navy and the Marine Corps [in the JSE] is the most important part and biggest objective that we're able to achieve."

Developed by NAWCAD engineers and industry partners, the JSE is a digital training and test facility that features realistic domed simulators with actual defense hardware, software, and adversary aircraft. The immersive environment enables pilots flying F-35 and F-22 to practice complex combat scenarios and receive instant feedback, accelerating the learning process and honing their skills. Tactical groups training in the JSE fly more sorties in one week than they fly over a year on open-air ranges.

NAWCAD's JSE is formally integrated into the Navy's Strike Fighter Tactics Instructor Program –commonly known as TOPGUN – and efforts are underway to incorporate JSE training across additional warfighter programs.

NAWCAD will expand JSE's capabilities with the addition of a highly realistic E-2D Advanced Hawkeye this year, and the F/A-18 Super Hornet and EA-18G Growler next year.

NAWCAD's military, civilian, and contract personnel operate test ranges, laboratories, and aircraft in support of test, evaluation, research, development, and sustainment for all Navy and Marine Corps aviation platforms. Based in Patuxent River, Maryland, NAWCAD also has major sites in St. Inigoes, Maryland; Lakehurst, New Jersey; and Orlando, Florida.

U.S. Joins India to Launch

Exercise Tiger TRIUMPH 2025

VISAKHAPATNAM, Andhra Pradesh, India (April 1, 2025) – Indian Navy (IN) Rear Adm. Susheel Menon, Flag Officer Commanding Eastern Fleet (FOCEF), front, Rear Adm. Greg Newkirk, Commander, Task Force (CTF) 70, second from right, and other leaders representing U.S. and India joint forces salute during the national anthem on the flight deck aboard the IN amphibious transport dock INS Jalashwa (L41) during the opening ceremony of Exercise Tiger Triumph 2025, at the Naval Dockyard, Visakhapatnam, Andhra Pradesh, India, April 1. (U.S. Navy photo by MC1 Caroline H. Lui)
From Lt. Cmdr. Seth Koenig, Apr. 1, 2025

VISAKHAPATNAM, India – Indian and U.S. armed forces held the opening ceremony to launch this year's Exercise Tiger Triumph in Visakhapatnam, India, on April 1, 2025.

U.S. Navy units including the landing ship dock USS Comstock (LSD 45), with embarked U.S. Marines, and Arleigh Burke-class guided-missile destroyer USS Ralph Johnson (DDG 114) are

scheduled to participate in the exercise.

“The operations and associated tactics and procedures that we will plan, execute and refine with our Indian partners will greatly expand our joint combined capacity to respond to any crisis,” said Rear Adm. Greg Newkirk, commander of the U.S. Navy’s Task Force 70 and the joint U.S. forces participating in the exercise. “Tiger Triumph 25 represents the joint forces of two strategic partners enhancing our shared multi-domain awareness and ability to operate more effectively in those commonly understood domains. This is essential to prepare for any contingency that could emerge.”

This is the fourth time U.S. and Indian forces have come together for Tiger Triumph, a joint India-U.S. amphibious exercise. The exercise will involve approximately 3,000 personnel and at least four ships and seven aircraft from the two countries.

Tiger Triumph 25, which is scheduled to take place over a two-week period, continues the joint and combined forces’ ongoing efforts to improve interoperability for humanitarian assistance and disaster relief (HADR) operations.

“The longstanding strategic partnership between India and the United States is based on shared democratic values and convergence of ideas and interests on bilateral, regional and global issues,” said the Indian Navy’s Rear Adm. Susheel Manon, Flag Officer Commanding the Eastern Fleet. “Tiger Triumph 2025, the fourth edition of this joint exercise is an initiative aimed at furthering our common vision for the Indo-Pacific, specifically dealing with the aspect of humanitarian assistance and disaster relief. Exercise Tiger Triumph is an integrated and complex exercise, in terms of the number of assets and personnel involved, with a direct joint tri-services flavor.”

Exercise events include subject matter expert exchanges, an amphibious beach landing, and establishment of an emergency medical treatment station at the site. Tiger Triumph 2025 will include the first-ever subject matter expert exchange with U.S. and Indian industry partners, government representatives, and operators focused on applying cutting-edge autonomous capabilities to address critical warfighter needs. This exchange will advance the new U.S.-India Autonomous Systems Industry Alliance (ASIA) announced in February by President Trump and Prime Minister Modi and lays the groundwork toward greater integration of autonomous systems into future U.S.-India exercises.

Also new to Tiger Triumph in 2025 is the introduction of a space element to the exercise, with U.S. Space Force representatives working with Indian counterparts to incorporate satellite technology to enhance force awareness in operational planning and execution.

Service members from U.S. and Indian armed forces will also take part in cultural and athletic events to build personal relationships and camaraderie.

The Comstock and the Ralph Johnson are underway conducting routine operations as part of U.S. 7th Fleet in support of a safe and prosperous Indo-Pacific. Additional U.S. forces participating in the exercise include Navy P-8A Poseidon and Air Force C-130J aircraft, as well as an Army platoon, medical platoon, Civil-Military Operations Center and Multi-Domain Task Force Combined Information Effects Fusion Cell.

U.S. 7th Fleet is the U.S. Navy’s largest forward-deployed numbered fleet and routinely interacts and operates with allies and partners in preserving a free and open Indo-Pacific region.

HII Celebrates 2024 Graduates of The Newport News Shipbuilding Apprentice School

From HII, March 29, 2025

NEWPORT NEWS, Va., March 29, 2025 (GLOBE NEWSWIRE) — HII (NYSE: HII) hosted commencement exercises today, celebrating 77 graduates of the company's Newport News Shipbuilding Apprentice School. The ceremony was held at Liberty Live Church in Hampton.

Virginia State Sen. Louise Lucas delivered the keynote commencement address.

“The technical skills you acquired here will serve as a foundation upon which you build your career,” Lucas told the graduates. “The leadership lessons learned in The Apprentice School and in the shipyard will open doors to roads you might not have ever imagined.”

NNS President Kari Wilkinson addressed the graduates as the shipyard’s newest leaders.

“You have each signed up for an incredible, important mission,” Wilkinson said. “You literally build freedom for our nation, and I’m proud to stand beside you in doing so. You have honed your craft, demonstrated your dedication, and play a critical role in the stability of our nation. You are heroes, as well as teammates.”

Founded in 1919, The Newport News Shipbuilding Apprentice School has been accredited since 1982 by the Council on Occupational Education. Certification to grant associate degrees and confer degrees on its own came in July 2020, after the school was approved by the State Council of Higher Education for Virginia to operate as a postsecondary institution.

Photos accompanying this release are available at: http://hii.com/news/hii-celebrates-2024-graduates-of-the-newport-news-shipbuilding-apprentice-school/.

A majority of this year’s class joined the Apprentice School in 2020, during the COVID-19 pandemic, when the school significantly reduced normal enrollment.

Travis Johnson received the Homer L. Ferguson Award, which recognizes the apprentice graduating with the highest average in combined required academic and craft grades.

Johnson joined NNS in 2018 as a pipefitter working in the new construction aircraft carrier program. In 2020, he was accepted into The Apprentice School. Today, he is a

pipefitting instructor at the school, teaching students who are pursuing the same path he chose.

During his address, Johnson asked graduates to reflect on the perseverance and dedication that defined their apprenticeships and that set them up for success as shipyard leaders.

“Today is proof that we are strong, capable, and can accomplish anything if we refuse to give up,” Johnson shared. “But this isn’t the finish line; it’s actually just the beginning. So as you step into your next chapter – whatever that may be – remember what you’ve learned.”

Replay coverage of the ceremony is available at: https://hii.com/events/nns-as-graduation/.

The following is a profile of the graduating class:

- Twenty graduates completed an optional advanced program, earning an associate or bachelor’s degree. The program includes coursework in subjects and fields such as marine design, nuclear testing, production planning, supply chain, metrology and marine engineering.

- Thirty-six graduates earned honors, a combination of academic and craft grades that determine overall performance.

- Forty-one graduates earned an Associate of Applied Science degree in maritime technology.

- Thirty-seven graduates completed Frontline FAST, an accelerated skills training program for potential foremen.

- Twenty-four graduates were inducted into The National Society of Leadership Success.

- Eight graduates completed the World Class Shipbuilder Curriculum and advanced optional program with a perfect 4.0 grade point average.

- Six graduates are military veterans or are currently serving in the armed services as reservists and guardsmen.

- Thirteen graduates earned Gold Athletic Awards.

- Two graduates are former presidents of the Apprentice School Student Association.

The Apprentice School accepts more than 200 apprentices per year. The school offers four- to eight-year, tuition-free apprenticeships in 19 trades and seven optional programs. Apprentices work a 40-hour week and are paid for all work, including time spent in academic classes.

For more information about The Newport News Shipbuilding Apprentice School, please visit www.as.edu.

SECNAV Phelan to Keynote 2025

Sea-Air-Space Breakfast

Newly confirmed Secretary of the Navy John C. Phelan will deliver a keynote address at Sea-Air-Space 2025 on Wednesday, April 9, at 7:30 a.m., marking one of his first public appearances since taking office.

Phelan, who was confirmed by the U.S. Senate on March 24 to serve as the 79th Secretary of the Navy, is expected to outline his top priorities for the Department of the Navy during the largest maritime exposition in the United States. His remarks will provide insight into his vision for strengthening the Navy and Marine Corps at a time of increasing global competition and threats.

Among the topics Phelan is expected to address are revitalizing U.S. shipbuilding, reinforcing a warfighting-focused culture, and improving recruitment to bring in the next generation of naval leaders. He has also previously said

he plans to push for greater investment in uncrewed systems and enabling technologies, including autonomy, mission systems, and advanced communications capabilities.

Phelan’s keynote is expected to be one of the most anticipated sessions of the conference. Attendees will have a rare early opportunity to hear directly from the new SECNAV as he outlines his priorities for the Navy and Marine Corps. The April 9 Sea-Air-Space Breakfast is a ticketed event and requires an additional fee to attend. Tickets purchased in advance are available for $105, with onsite tickets priced at $115.

To register, please click here.

Department of Defense Completes Underway Recovery Test 12 with NASA

From Expeditionary Strike Group 3, March 31, 2025

SAN DIEGO – NASA's Exploration Ground Systems Landing and Recovery team and the Department of Defense successfully completed the third recovery test for the crewed Artemis II mission aboard amphibious transport dock USS Somerset (LPD 25) off the coast of San Diego, March 31.

The primary objectives for Underway Recovery Test 12 were to demonstrate and evaluate the processes, procedures, and hardware for recovery operations for the crewed Artemis II mission around the moon.

"The U.S. Navy and NASA have a long history of partnering together to support the recovery of astronauts and equipment used for space exploration and research," said Capt. Andrew Koy, commanding officer, USS Somerset. "The inherent capabilities of our amphibious transport dock ships are the perfect combination to ensuring the Artemis capsule and crew are safely recovered following their mission. The well deck, flight deck, medical facilities, and immense cargo carrying capacity crewed by highlight trained and proficient Sailors,

continues the NASA and Department of Defense legacy.”

Underway Recovery Test 12 allowed NASA and the Department of Defense to practice operational procedures for Artemis II, including timing of crew extraction from the capsule to the ship’s medical bay and day-and-night recovery procedures to support certification of personnel and processes for Artemis II mission.

Artemis II astronaut U.S. Navy Capt. Victor Glover embarked the ship for Underway Recovery Test 12.

“This puts my two loves together, space and the navy. I am really in my happy place here,” said Glover. “The partnership between NASA and the U.S. Navy is a testament to a fostered symbiotic relationship built on trust, where our needs are met by their unparalleled expertise and resources. Together, we’re not just working side by side; we’re one team! As we prepare to send the next group of explorers around the Moon and beyond, we’re pushing the boundaries of human achievement, all thanks to the strength of this incredible partnership.”

Working in support of U.S. Space Command, additional U.S. Navy units included Expeditionary Strike Group 3, Helicopter Sea Combat Squadron 23, Explosive Ordnance Disposal Group 1, and Amphibious Construction Battalion 1, with support from U.S. Air Force’s First Air Force, Detachment 3, and U.S. Space Force’s 45th Space Launch Delta Weather Squadron.

After the 2022 successful recovery of the Orion spacecraft from the Artemis I mission using amphibious transport dock USS Portland (LPD 27), and with the addition of crew for the Artemis II mission, the recovery teams modified their timelines and procedures to ensure the astronauts will be safely on the recovery ship within two hours after splashing down in the Pacific Ocean.

After a 10-day mission, NASA astronauts Reid Wiseman, Victor Glover, and Christina Koch, and Canadian Space Agency astronaut Jeremy Hansen will reenter Earth's atmosphere at 25,000 mph, landing approximately 60 miles off the coast of California, where one of the U.S. Navy's amphibious transport dock ships will recover the capsule and crew with NASA and DoD personnel.

Once the crew splashes down, a group of Navy divers will approach Orion and ensure it is safe for the astronauts to exit the spacecraft. The divers will then open the spacecraft hatch and help the astronauts exit one by one onto an inflatable "front porch." This raft wraps around the capsule and allows for the crew to be picked up via helicopter and flown back to the recovery ship. Once the astronauts are on board the recovery ship, teams will secure Orion with a series of lines and tow it into the ship's well-deck, just as they did during the Artemis I mission.

During the test, the team practiced the Artemis II recovery procedures, including releasing and recovering the crew module test article, a full-scale mock-up of Orion.

"As Navy Divers, we are proud members of the URT-12 team and look forward to a successful mission," said Master Chief Navy Diver Ryan Crider, who leads the team of divers from Explosive Ordnance Disposal Group 1 assigned to Underway Recovery Test 12. "We are the Navy's experts in mobile salvage and towing, so the unique task of recovering and transporting a space capsule from the ocean to a well deck is the perfect opportunity to put our skills to the test."

The recovery team will capture lessons learned and apply them to future underway tests to make sure they are ready to recover the Artemis II crew and bring them home safely.

"Since 1959, First Air Force, Detachment 3 has collaborated

with NASA and the US Navy, a partnership that has led to our critical role in preparing for Artemis," said Lt. Col. Mahan, First Air Force, Detachment 3 Artemis Program director. "With US Space Command, backed by the U.S. Navy, spearheading DoD human spaceflight support, and Air Forces Space serving as deputy, URT-12 has built a cohesive team committed to mission success. This landmark joint effort is undoubtedly the pinnacle of our year!"

As the Department of Defense's Human Space Flight Support manager, U.S. Space Command is responsible for the terrestrial rescue and recovery of NASA-sponsored astronauts and spacecraft for the Artemis program.

Expeditionary Strike Group 3 comprises three amphibious squadrons, 15 amphibious warships, and eight naval support elements including approximately 18,000 active-duty and reserve Sailors and Marines. As the deputy commander for amphibious and littoral warfare, U.S. 3rd Fleet, the Expeditionary Strike Group 3 commander also oversees the 17 littoral combat ships under Littoral Combat Ship Squadron 1.

Expeditionary Strike Group 3 is postured in support of U.S. 3rd Fleet as a globally responsive and scalable naval command element, capable of generating, deploying, and employing naval forces and formations for crisis and contingency response, forward presence, and major combat operations focusing on amphibious operations, humanitarian and disaster relief and support to defense civil authorities, and expeditionary logistics.

For more information on Underway Recovery Test 12, please visit:
https://www.dvidshub.net/feature/URT12

Shield AI Delivers First ViDAR Payloads to NAVAIR for U.S. Marine Corps Operations

From Shield AI, March 28, 2025

WASHINGTON (March 28, 2025) – Shield AI, the deep-tech company building state-of-the-art autonomy software products and defense aircraft, today announced the delivery of its first ViDAR (Visual Detection and Ranging) payloads to NAVAIR's Program Office for the Navy and Marine Corps Small Tactical Unmanned Aircraft Systems (PMA-263), destined for operations with the U.S. Marine Corps (USMC). This milestone marks Shield AI's first turn-key payload delivery and a major step forward in integrating AI-enabled edge solutions into frontline operations.

ViDAR is an AI-enabled optical sensor that leverages edge computing to passively detect, identify, geolocate, and track objects with wide-area motion imagery. It has been deployed in intelligence, surveillance, and reconnaissance (ISR) missions as well as search-and-rescue operations, with proven effectiveness in challenging maritime environments, including up to Sea State 6. Delivering ViDAR as a turn-key payload to the USMC is a testament to its low SWaP (size, weight, and power) efficiency, adaptability, and ability to enhance situational awareness in contested environments.

“As modern battlefields become more contested, platforms must detect, locate, classify, and track threats without relying on active emissions. ViDAR provides real-time, passive optical tracking across land and sea, delivering persistent surveillance at a fraction of the size, weight, and power—without emitting a signal—giving operators a critical advantage in covert operations,” said Christian Gutierrez, Vice President of Hivemind Solutions at Shield AI. “We look forward to seeing ViDAR fly in support of the Marine Corps, helping them gain a decisive edge in modern combat environments.”

ViDAR’s operational deployment follows a rigorous Foreign Comparative Testing (FCT) project initiated by PMA-263 in 2022. The evaluation program included extensive ground and flight testing on unmanned aircraft systems (UAS), validating ViDAR’s performance for USMC-specific operations in wide-area maritime surveillance. The successful completion of the FCT project saw ViDAR transition to a program element within NAVAIR.