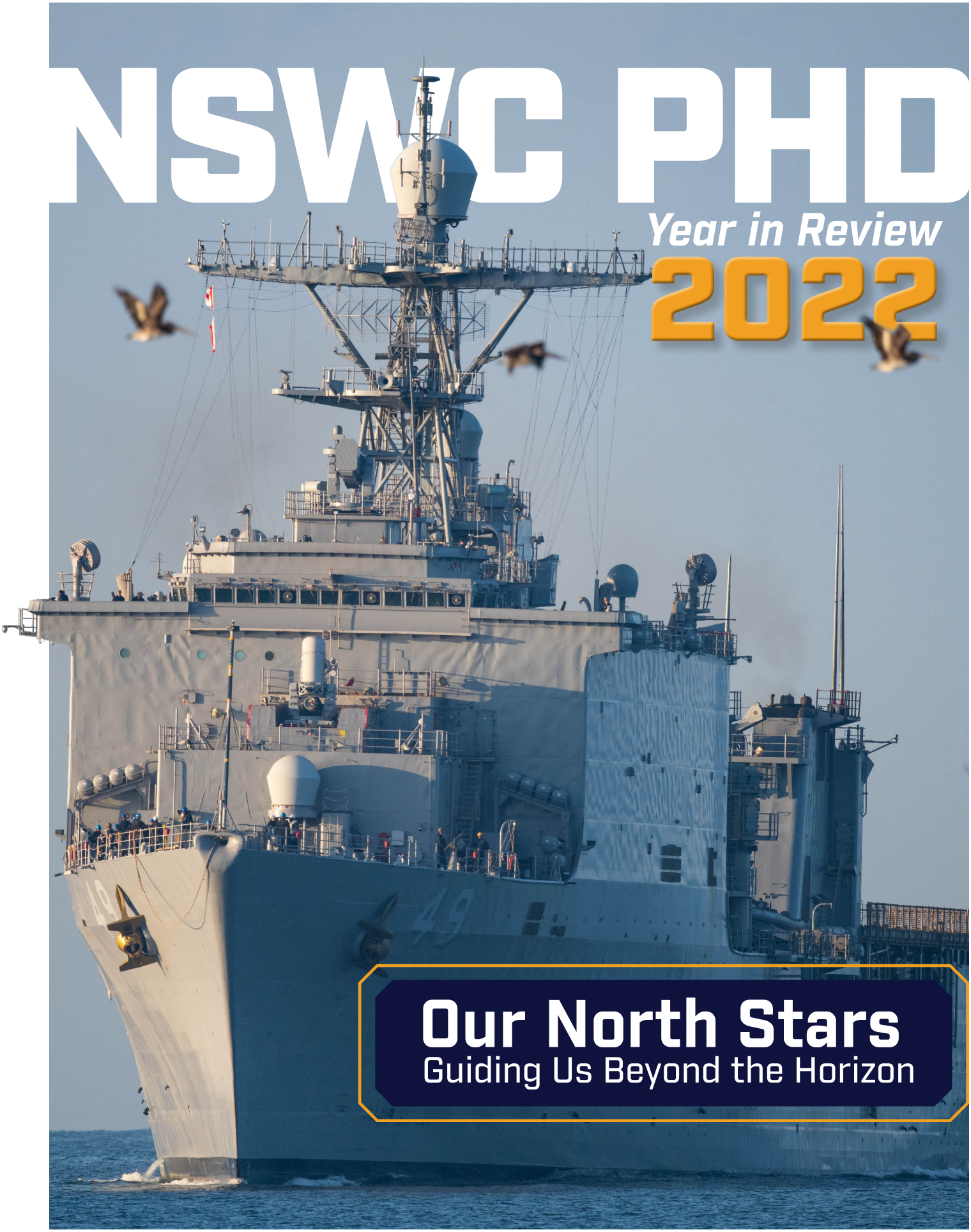


NSWC PHD

Year in Review 2022

Our North Stars

Guiding Us Beyond the Horizon

We entered 2022 with the promise of an enterprising year ahead, and carried that spirit through by embracing new initiatives and efforts—to include unmanned and directed energy—as a new and evolving command structure took hold and new leaders emerged to drive us forward.

At the start of the year, Mr. Jeff Koe embarked on a new voyage, taking the reins as technical director of NSWC PHD. The promotion placed Koe in the top civilian post of the command where he began working more than three decades ago as a young engineer.

We achieved a significant milestone when our Future State Task Force reorganization was fully implemented in October. As a result, we launched our new departments—N, Modernization and Installation; C, Combat Systems, Test and Evaluation; D, Digital Engineering and E, Sensors, Weapons and Launchers. During this time, we evaluated and adjusted sails as needed to align with our Strategic Plan 2020-2030, our North Star efforts and the reorganization to maximize our capacity to support our stakeholders. Our delivery of capability and innovative solutions vastly increased, and as a result we increased the Navy's fleet strength, readiness and lethality.

Throughout the year we built many partnerships within our community, supporting STEM outreach, education initiatives and recruiting and retention efforts. We enjoyed celebrating our collaborative wins with our partners in research, development, test and evaluation as we implemented fleet modernization and sustainment efforts. All the while, and despite a few obstacles, our professionalism and commitment held steadfast—we are after all, "The Force Behind the Fleet!"

A few of our major milestones in 2022 included welcoming Unmanned Surface Vehicles and the Extra-Large Unmanned Undersea Vehicle to our recently upgraded Mission Package Support Facility; standing up our Unmanned Operations Center; hosting the first-ever Repair Technology Exercise aboard the Self Defense Test Ship; and ceremoniously cutting the ribbon to our new Aegis Computer Lab.

Together, we look to the future with humbleness and pride. We remain committed to fleet readiness, self-improvement and forward movement, with so much more to conquer as we set our gaze over the horizon.

OUR FOUNDATION

Mission: *Integrate, Test, Evaluate, and Provide Life Cycle Engineering and Product Support for Warfare Systems*

Vision: *Keeping Our Navy Underway, Combat Ready, and Effective*

Strategic Goals:

- *Build a Sustainable Organization*
- *Drive Results into Fleet Systems*
- *Innovate and Improve*

North Stars: *Unmanned; Business Transformation; Wartime Acquisition Response Plan; Digital Transformation—Zero Onboard Tech Assists (2030); Integrated Combat System*

NSWC PHD Technical Director Jeff Koe closes out the Leadership Symposium Jan. 19 in the command Auditorium.

NSWC PHD

Year in Review 2022

UNMANNED

An early prototype of the Sea Hunter, a medium displacement unmanned surface vehicle, is put through its paces in 2018. The original concept of the Sea Hunter, built in a trimaran ship configuration, was to track enemy submarines.

ADVANCING OUR UNMANNED GOAL

Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) leadership took significant steps forward throughout 2022 to position the command as the integrated combat system In-Service Engineering Agent (ISEA) for unmanned surface platforms by constructing an Unmanned Operations Center (UOC), which is expected to open inside the Surface Warfare Engineering Facility (SWEF) in 2023. The effort aligns with the command's guiding North Star to be the definitive ISEA for the Navy's emerging classes of Unmanned Surface Vehicles (USVs) by 2030. The command is collaborating with Naval Information Warfare Center Pacific as the primary design agent on the new building, which will be used to demonstrate and test USVs. Program Executive Office Unmanned Small Combatants and its subsidiary Unmanned Maritime Systems Program Office, with support from NSWC PHD, will manage the center.

From left: Mission Package Support Facility (MPSF) Director Andrew Payor, Unmanned Maritime Systems Program Office Manager Capt. Pete Small, Fleet Introduction Team Principal Assistant Program Manager Capt. William Filip and NSWC PHD Commanding Officer Capt. Andrew Hoffman pose for a photo during the ribbon-cutting ceremony on Dec. 8, 2021 for the MPSF facility upgrade to accept the Extra Large Unmanned Undersea Vehicles, or Orcas, at NSWC PHD.

Santa Clarita Electrical Inc. electrician Caleb Sveiveri (left) and HKD Journeyman Erubin Vargas work in the Unmanned Operation Center at the Surface Warfare Engineering Facility on Sept. 22 at NSWC PHD.

Melanie Chang; Lt. Ashleigh Magee, NSWC PHD fleet readiness portfolio office and Cmdr. Mike Risik, NSWC PHD deputy commander for acquisition and readiness, stand in front of the Saildrone Explorer, an unmanned surface vehicle that includes wind-powered propulsion technology and solar-powered meteorological and oceanographic sensors for collecting long-range data while in the ocean.

ADVANCING FLEET LETHALITY

WHITE SANDS DETACHMENT SUPPORTS TESTING OF NEW HYPERSONIC MISSILE

NSWC PHD's White Sands Detachment in New Mexico supported the successful test fire of a new hypersonic missile for the U.S. Army in May by assembling the system, modifying equipment and providing cranes to move and carry the weapon. Contractor Lockheed Martin Corp. is integrating the missile with existing logistics vehicles. The ground-launched Operational Fires weapon system enables a hypersonic boost glide missile system to penetrate modern enemy air defenses and rapidly engage time-sensitive targets.

WHITE SANDS DETACHMENT SUPPORTS MARINE CORPS' MEDIUM-RANGE INTERCEPT CAPABILITY

The Marine Corps' Medium-Range Intercept Capability (MRIC) prototype shot down three aerial targets in a recent demonstration aided by NSWC PHD's White Sands Detachment, bolstering the Marines' capability to counter cruise missiles. White Sands Detachment personnel helped orchestrate the June 30 test and evaluation event at White Sands Missile Range in New Mexico, from setting up the launch sites to firing the BQM-177A subsonic aerial targets, which represented cruise missiles.

DDG 1000 SUCCEEDS IN MISSILE FIRINGS

Guided-missile destroyer USS Zumwalt (DDG 1000) conducted a live-fire missile exercise April 14-15 on the Point Mugu Sea Range with assistance from team members in NSWC PHD's systems engineering and test and evaluation division. The test was preceded by an Evolved Seasparrow Missile (ESSM) launch against an unmanned aerial vehicle in March, and data confirmed the test was successful. In mid-April, USS Zumwalt's crew fired two Standard Missile-2 missiles, and two ESSMs, both against supersonic aerial targets.

STANDARD MISSILE-3 MILESTONE

NSWC PHD's in-service engineering agents successfully supported the joint Missile Defense Agency (MDA)/U.S. Navy effort in the execution of Flight Test Experimental Aegis Weapon System-01 (FEM-01), or Stellar Perseids, April 9. During the mission, USS Shoup (DDG 86) successfully engaged a medium-range ballistic missile target with a Standard Missile-3 (SM-3) Block IIA missile on the Pacific Missile Range Facility northwest of Kauai. This flight test was the first SM-3 live-fire for the Aegis Capability Package computer program.

NSWC PHD SUPPORTS ATLANTIC THUNDER THROUGH MANY FIRSTS

The Atlantic Thunder fleet exercise supported by NSWC PHD in September included numerous firsts: the first of the biennial exercises between the U.S.'s Sixth Fleet and the United Kingdom's Royal Navy; the first test of new interoperability communications between the countries' missiles and aircraft, and the first Standard Missile-6 (SM-6) firing in anti-ship mode against a target. During the biennial exercise, U.S. and U.K. aircraft and ships fired missiles, including the SM-6 that sank the decommissioned USS Boone (FFG 28). NAVSEA Program Executive Office Integrated Warfare Systems 1.0 — responsible for the Aegis Weapon System — and the Sixth Fleet's Commander Task Force 65, based in Rota, Spain, and in charge of operational and tactical control of all forward deployed surface combatants operating in the U.S. European Command and U.S. Africa Command, also participated in the exercise.

MASSIVE MOVE RESULTS IN FIRST HELIOS ON NAVY SHIP

A laser beam director is now aboard the destroyer USS Preble (DDG 88) after NSWC PHD and other stakeholders carefully planned the cross-country journey from the Navy's Surface Combat Systems Center on Wallops Island, Virginia, to a San Diego shipyard. The beam director, part of the prototype High Energy Laser with Integrated Optical-dazzler and Surveillance (HELIOS) Directed Energy (DE) system, became the first system of its kind on a Navy ship.

WHITE SANDS DETACHMENT ASSISTS IN MISSILE TESTS WITH JAPANESE NAVY

NSWC PHD's White Sands Detachment integrated four targets flown during the Japan Test Flight Mission-07 from the Pacific Missile Range Facility, Barking Sands (PMRF) in Kauai, Hawaii in a joint mission exercise between the U.S. Navy and the Japanese Navy. NSWC PHD's team, along with Missile Defense Agency partners, had never flown and prepared four individual targets for one mission before. The targets were launched during a two-week timeframe in mid-November. Two of the targets were intercept targets, and the other two were tracking exercise targets.

EXPANDING CAPABILITIES

COMMAND ACHIEVES FIRST IN-HOUSE ASSEMBLY OF A VERTICAL LAUNCHING SYSTEM

NSWC PHD's team reached a milestone in the first in-house assembly of a Vertical Launching System (VLS). On April 15, the team successfully lifted a deck and hatch unit onto the body of a Mark 41 VLS, topping off the mechanical assembly of the module. The goal of the project for Program Executive Office Integrated Warfare Systems 3L, which oversees surface ship launchers, is to develop and validate VLS module assembly procedures derived from the government Technical Data Package and to supplement current government contracts due to high demand.

Naval Facilities Engineering Systems Command riggers and an NSWC PHD engineering technician lower the new canister adapter into a cell of the Vertical Launching System (VLS) at the Surface Warfare Engineering Facility on Jan. 31. The VLS upgrade and training project also supports one of the command's three Strategic Goals of creating a culture of innovation to deliver and sustain capability.

VLS ADVANCING SHIP READINESS

Naval Facilities Engineering Systems Command Rigger in Charge Dan Southward uses hand signals to direct a crane operator aboard MV Ocean Valor as a Vertical Launching System canister is slowly raised into an upright position during a training session at Wharf 4 at NSWC PHD on Jan. 13.

RELOADING MISSILE LAUNCHERS

A “floating crane,” a guided-missile destroyer and support from NSWC PHD recently moved the Navy closer to its goal of rearming Mark-41 Vertical Launching Systems (VLS) on naval ships at sea. NSWC PHD supplied subject matter experts and equipment for a first-of-its-kind demonstration in San Diego Harbor on Oct. 4, in which the crane-equipped fleet experimentation ship MV Ocean Valor lifted missile canisters from its deck, swung them over the water and lowered them into VLS cells on USS Spruance (DDG 111). USS Spruance was moored to a pier; the Military Sealift Command-contracted Ocean Valor floated unmoored in the water up to 45 feet away.

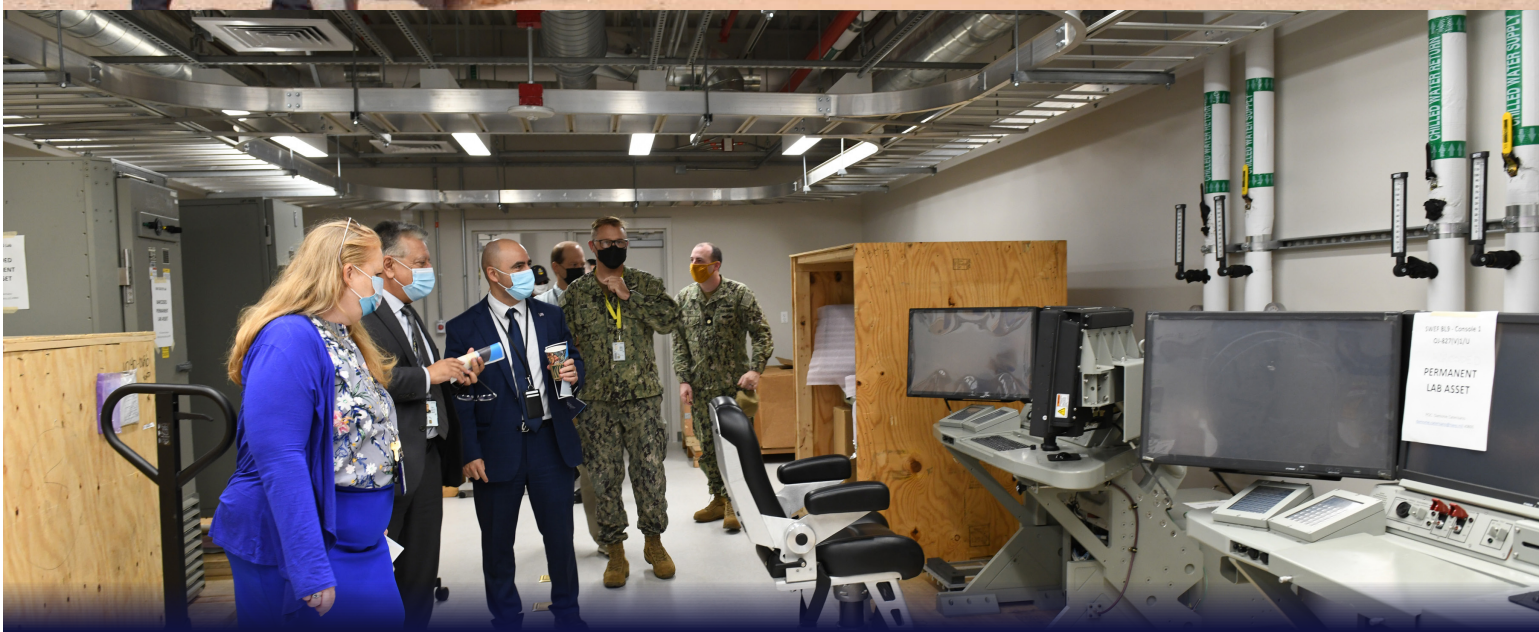
LAB PRODUCTS MEET FLEET NEEDS

Nearly 100 laboratories at NSWC PHD have developed tangible products to help provide capabilities to the warfighter. Command labs have seen their creations transferred to the private sector for commercial potential.

Engineering Development Lab Electronics Technician Keith Sander shows off a spherical-mounted reflector holder, which was created using a 3D printer—saving the U.S. Navy millions of dollars compared to outsourcing the work.

WHITE SANDS DETACHMENT TO EXPAND EXPLOSIVES STORAGE WITH NEW EARTH-COVERED MAGAZINE

Officials from NSWC PHD's White Sands Detachment and other dignitaries break ground on a new earth-covered magazine for storing explosives in a ceremony at White Sands Missile Range (WSMR) in New Mexico on May 4. From left: Julia Kirton of the WSMR Directorate of Public Works; Jason Pingo of the U.S. Army Test and Evaluation Command; Cmdr. Colin Monk, outgoing officer in charge of White Sands Detachment; Ashley Beyer, southern regional outreach director for New Mexico Sen. Martin Heinrich; Cmdr. Adrian Laney, incoming officer-in-charge of White Sands Detachment; Maj. Brett Fuller, deputy district commander with the U.S. Army Corps of Engineers; and Phillip Lovato, district area engineer with the U.S. Army Corps of Engineers.



ACCELERATING FLEET SUPPORT WITH NEW AEGIS LAB

The Aegis Computer Lab — the first new building on the grounds of NSWC PHD in over two decades — officially opened in late August with a ribbon-cutting ceremony and a tour of the 5,000-square foot, $4.2 million state-of-the-art facility's powerful computing capabilities to support the fleet. The lab will save the command time on projects, travel costs to labs elsewhere and improve turnaround time for fleet in-service engineering support to the warfighter.

COMMAND MOVES FORWARD WITH CONSTRUCTION OF ENGINEERING AND WEAPON SYSTEM LAB

NSWC PHD moved forward with plans to construct a roughly $6 million, 5,000-square-foot new engineering and weapon system development laboratory to support in-service engineering services for warships of the future and to meet the fleet's need for increasingly advanced warfighting capabilities. Funding is a Command Investment Proposal under the Minor Construction program.

WHITE SANDS TEAM ASSISTS FRANCE WITH COMPLEX RESEARCH ROCKET

White Sands Detachment is broadening NSWC PHD's horizons with a joint France-U.S. research rocket project that aims to bolster both nations' defense capabilities, helping the country establish its own sounding rocket program. After a successful first launch in western France in October 2021, the White Sands team and its French partners began working on a more complex sounding rocket to launch from the same site in summer 2022.

NSWC PHD HOSTS FORWARD-LOOKING REPTX

Boosting the U.S. Navy's ability to keep ships in top shape while at sea was the goal of the new Repair Technology Exercise (REPTX), held Aug. 22 through Sept. 2 at NSWC PHD. More than 60 technology suppliers tested their products' capacity to tackle real-world fleet maintenance challenges, including assessing and repairing potential battle damage during REPTX's 10 days of technical demonstrations and field experiments aboard the Navy's Self Defense Test Ship, an asset of NSWC PHD. REPTX offered a unique opportunity to evaluate products and services that could potentially help sailors carry out the repairs needed to keep them underway. Naval Sea Systems Command's Naval Systems Engineering and Logistics Directorate Technology Office selected 65 technologies to take part in the inaugural event.

From left: Subin Varghese, a doctoral student in electrical engineering at the University of Houston, and Vedhus Hoskere, assistant professor of civil engineering at the university, launch a Skydio X2E unmanned aerial vehicle to scan the Self Defense Test Ship as Electrician's Mate 2nd Class Samantha Him-Gross and Hull Maintenance Technician 2nd Class Marco Perez of the Navy's Surge Maintenance program look on while underway off the coast of Port Hueneme, California, during the Repair Technology Exercise, or REPTX, on Aug. 29.

COMMAND PATENTS EARLY CORROSION DETECTION PROCESS

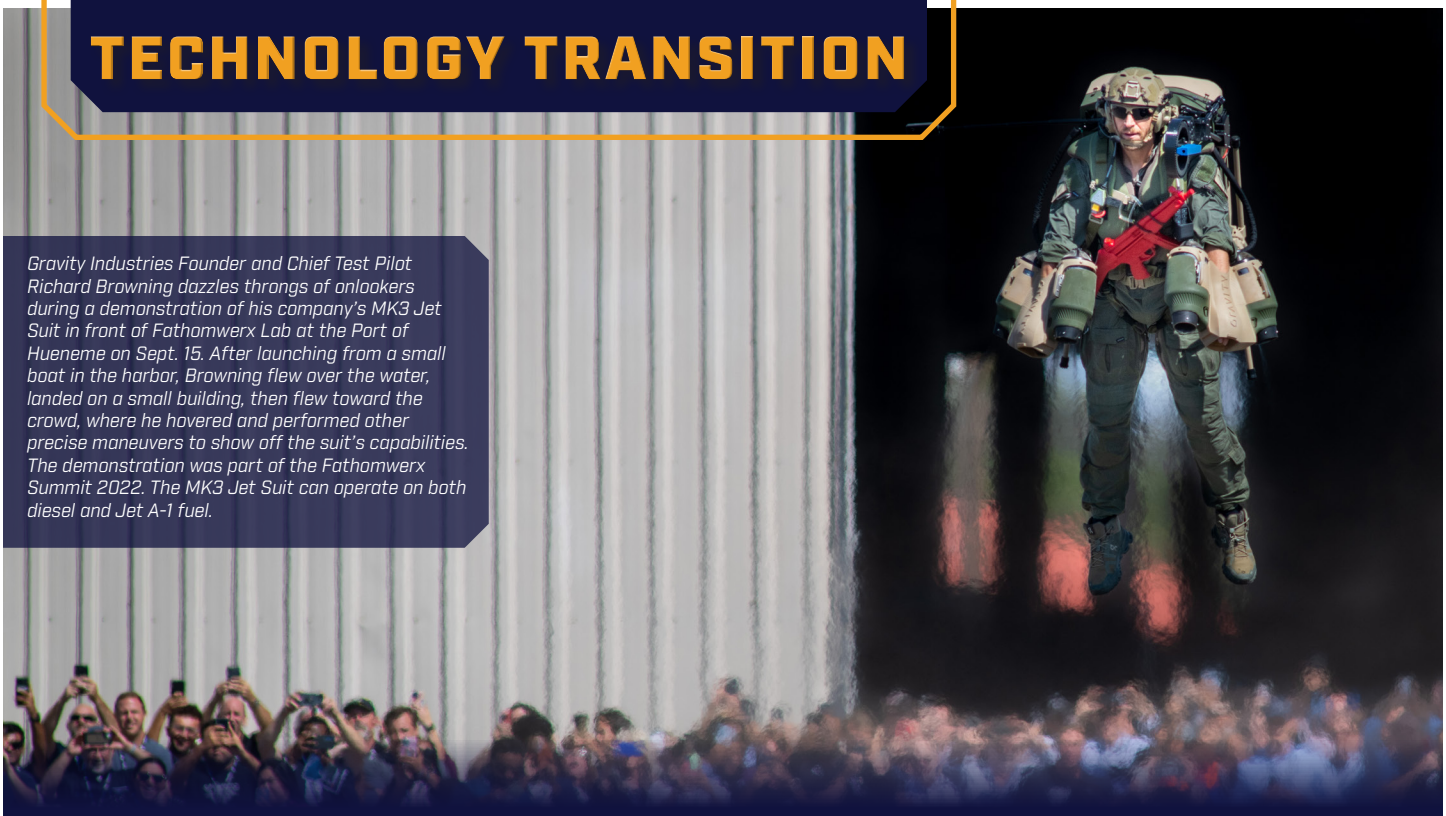
NSWC PHD patented the process of applying a “smart” fiberoptic system between a metal surface and its protective coating to detect the beginnings of corrosion at the microscopic level, opening the door for wider applications through a licensing agreement with a commercial company. The patent was awarded in November to Armen Kvryan, NSWC PHD’s materials subject matter expert, as the primary contributor, and the late Lt. Cmdr. Todd Coursey as the secondary contributor. The patented corrosion detection process makes use of NASA’s Fiber Optic Sensing Systems, or FOSS.

STATE NAMES FATHOMWERX LAB INNOVATION HUB TO INCREASE PARTNERING

Fathomwerx Lab was designated an Inclusive Innovative Hub, or iHub2, by California’s Office of the Small Business Advocate. The state designation gives Fathomwerx Lab the ability to pursue venture capital funding from outside investors for individual projects that promote inclusivity and a diverse network of innovators.

(From Left) Bryan Went, co-founder of Matter Labs, Mark Thompson, NAVFAC EXWC Office of Research and Technology Applications Manager (center) and Alan Jaeger, Office of Research and Technology Applications Manager and director, Ventura Tech Bridge, show a PowerPoint slideshow on the capabilities of Fathomwerx Lab April 12.

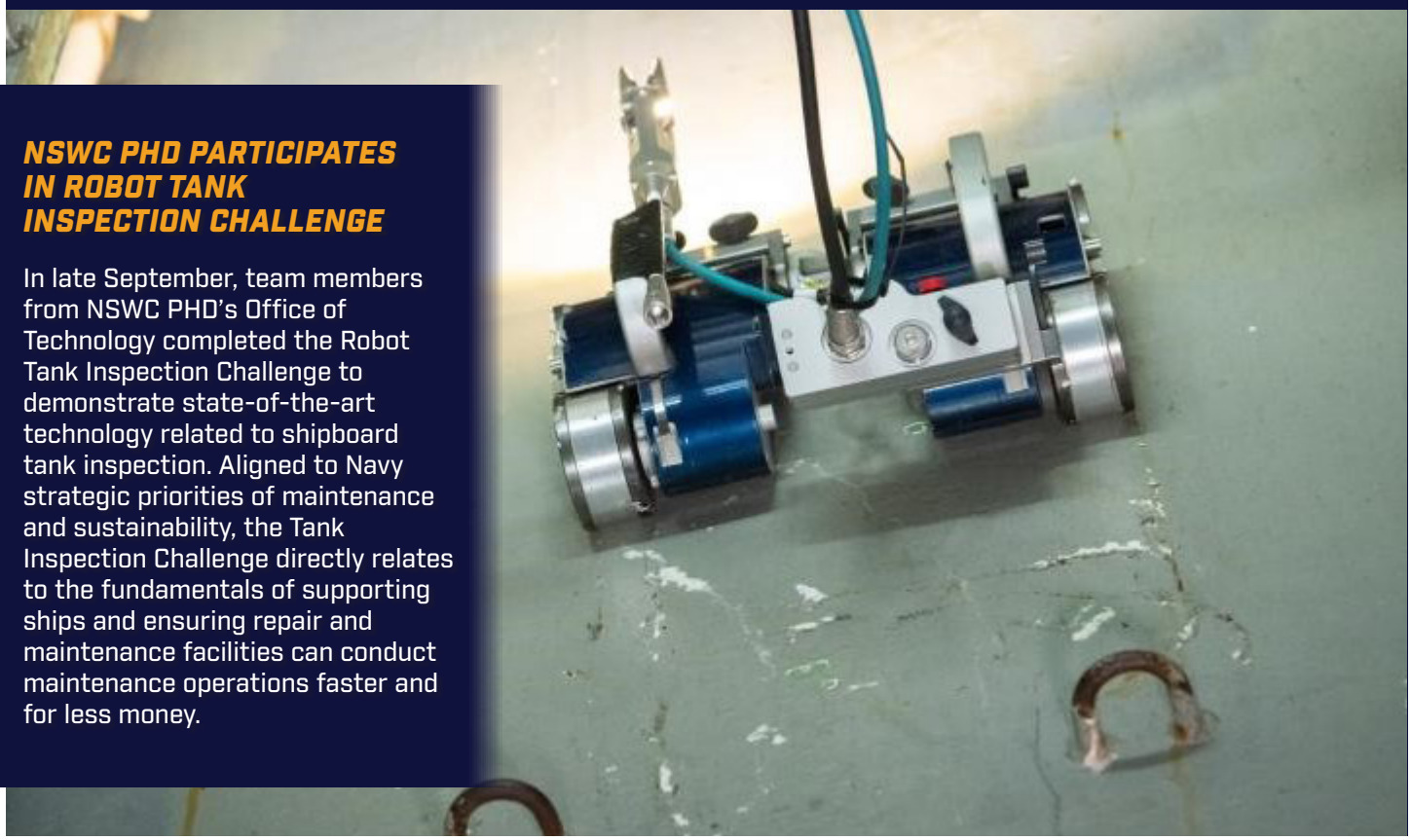
TECHNOLOGY TRANSITION



Gravity Industries Founder and Chief Test Pilot Richard Browning dazzles throngs of onlookers during a demonstration of his company's MK3 Jet Suit in front of Fathomwerx Lab at the Port of Hueneme on Sept. 15. After launching from a small boat in the harbor, Browning flew over the water, landed on a small building, then flew toward the crowd, where he hovered and performed other precise maneuvers to show off the suit's capabilities. The demonstration was part of the Fathomwerx Summit 2022. The MK3 Jet Suit can operate on both diesel and Jet A-1 fuel.

FATHOMWERX SUMMIT

In September, NSWC PHD hosted a Fathomwerx Summit, in coordination with Advanced Naval Technology Exercise/ Coastal Trident 2022 Open House and NavalX Agility Summit at Fathomwerx Lab to explore collaborative opportunities between industry and the Department of the Navy. The event featured exercises, technical demonstrations and field experiments to improve the U.S. Navy's and its partners' capabilities to conduct global operations and secure critical maritime infrastructure.



NSWC PHD PARTICIPATES IN ROBOT TANK INSPECTION CHALLENGE

In late September, team members from NSWC PHD's Office of Technology completed the Robot Tank Inspection Challenge to demonstrate state-of-the-art technology related to shipboard tank inspection. Aligned to Navy strategic priorities of maintenance and sustainability, the Tank Inspection Challenge directly relates to the fundamentals of supporting ships and ensuring repair and maintenance facilities can conduct maintenance operations faster and for less money.

PACIFIC DRAGON 2022

SUPPORTING PACIFIC DRAGON'S FIRST BALLISTIC MISSILE EVENTS

Team members from NSWC PHD took part in Pacific Dragon 2022 (PD-22) exercises from August 9-14 at the Pacific Missile Range Facility, Barking Sands, Hawaii. PD-22 is a biennial Anti-Air Warfare (AAW) and Ballistic Missile Defense (BMD) exercise that included warships from five allied navies and other participation from additional international partners. NSWC PHD's engineers, including the Ballistic Missile Targets team from White Sands Detachment, executed the first live-fire BMD events, the first firing of multiple closely spaced Standard Missile (SM)-3 Block IA missiles and the first use of SM-3 Block IA missiles as targets in a PD exercise.

STEM OUTREACH

Students build a SeaPerch Remotely Operated Vehicle during command-supported STEM Camp at Fathomwerx Lab, June 22.

HACKATHON SUPPORT

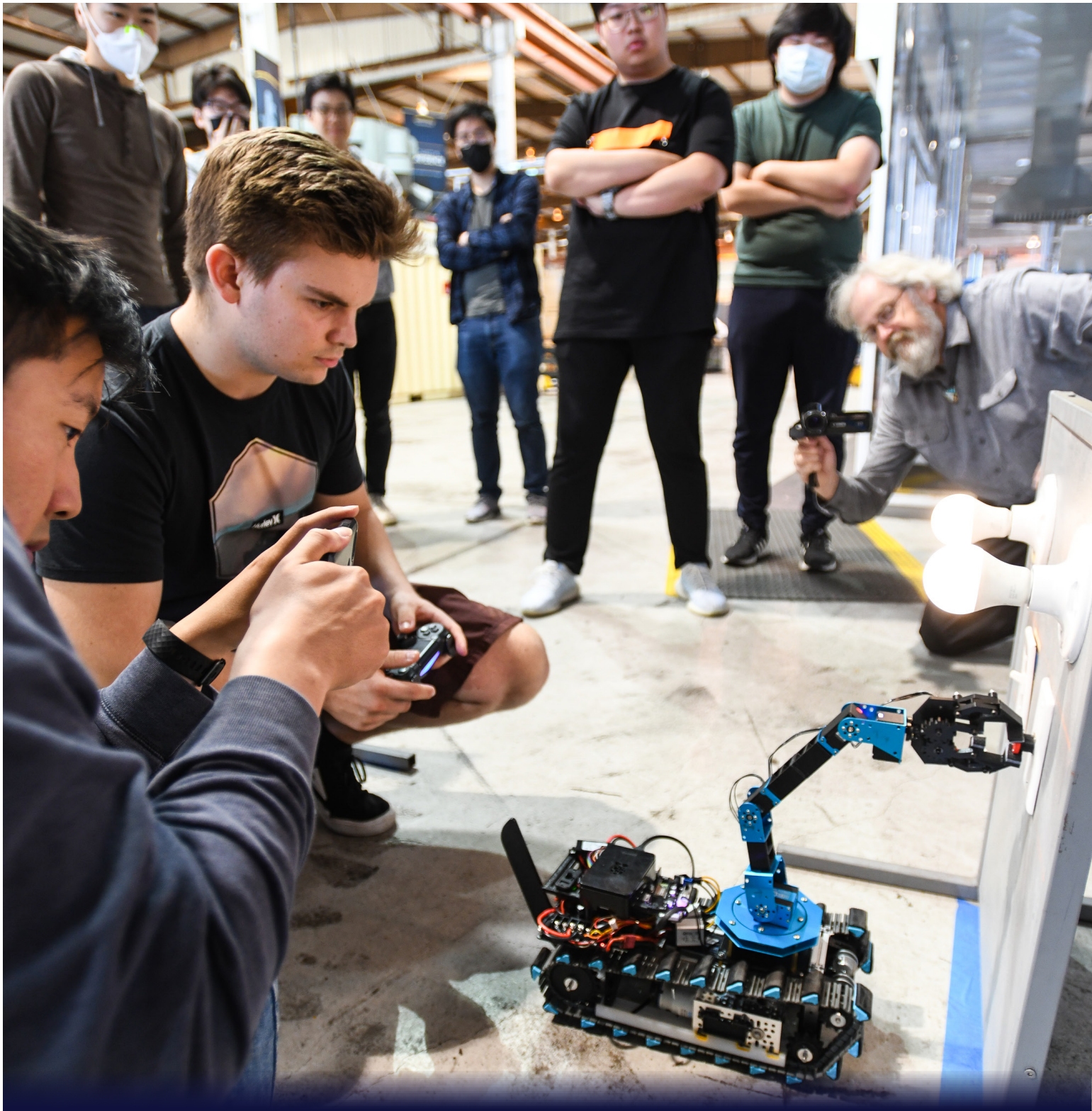
From an app that coordinates carpools to a study tool with video game perks, local students tapped technology to create solutions for common challenges at the Ventura County Office of Education's (VCOE) Hackathon-by-the-Sea. More than 60 students from 27 high schools across Ventura County teamed up to design problem-solving technology products while building skills in science, technology, engineering and mathematics (STEM) in the fifth annual event, held March 11-19. NSWC PHD, through its Educational Partnership Agreement with VCOE, supported the Hackathon, a computer coding competition in which teams collaborate on projects like apps, websites and games, by providing prizes and a judge.

LOCAL STUDENTS TAKE OVER FATHOMWERX LAB FOR NSWC PHD-SUPPORTED FIRST ROBOTICS COMPETITION

Students prepare their robots for the For Inspiration and Recognition of Science and Technology (FIRST) Robotics Competition at Fathomwerx Lab on March 5. Teams build and program industrial-size robots to play a challenging field game against other competitors in the annual event. NSWC PHD provides grants and mentors for local schools to take part in the competition, which aims to combine the excitement of sports with the rigors of science and technology.

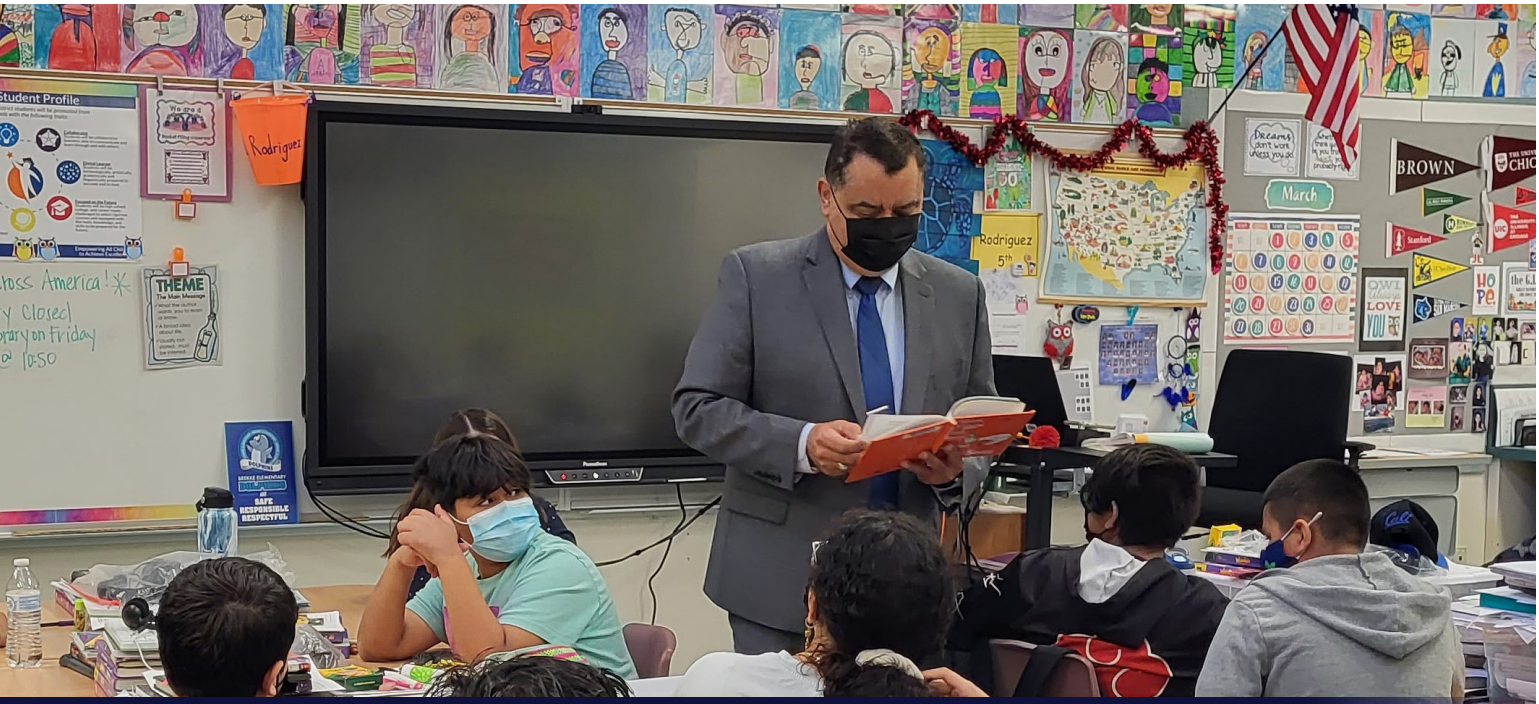
MENTORING GIRL SCOUTS ON CYBER-RELATED CAREERS

Girl Scouts want to broaden the skills practiced in their programs, and thanks in part to NSWC PHD engineers, they can add cybersecurity to their career aspirations. At least a dozen graduates from California State University, San Bernardino's Cybersecurity Center who are NSWC PHD employees mentored Girl Scouts with the San Gorgonio Council in San Bernardino and Riverside counties during GenCyber week at California State University, San Bernardino, on June 16 to stimulate interest and competency in cyber-related careers.



LOCAL COLLEGE STUDENTS AID NAVY RESEARCH

Could a robot work its way through the heavy doors, steep stairways and tight corridors of a Navy ship to potentially alleviate sailors of repetitive maintenance tasks? Local college students sought to answer that question as they brought robots they had designed to navigate a ship-model obstacle course in NSWC PHD's first Robot Rodeo competition, held May 19 and 31 at the command's Fathomwerx Lab at the Port of Hueneme. California State University Channel Islands and University of California, Santa Barbara teams built remote-controlled vehicles with crawler tracks and robotic arms to take on the obstacle course, which replicated features of NSWC PHD's Self Defense Test Ship at one-third scale.



NSWC PHD ENGAGES AT ALL LEVELS TO FOSTER FUTURE WORKFORCE

Ramon Flores, NSWC PHD STEM coordinator, reads “Green Eggs and Ham” on March 2 to 25 fifth-graders and 15 kindergarteners at Oxnard’s Norman R. Brekke Elementary School to support the National Education Association’s Read Across America program. After telling students he was an engineer, Flores said he got their attention with a math-based magic trick. “As always, I had a great time representing our command and serving as a role model for our youth,” he added.

COMMAND INTERNS TARGET NAVAL ISSUES THROUGH COMPETITION

More than two dozen college students spent their summer break probing some of the Navy’s perennial challenges, from detecting corrosion and leaks to securing network-connected devices to remotely assisting sailors with maintenance tasks. NSWC PHD and two other local naval commands sponsored nine teams of student interns which worked on projects targeting real-world naval engineering and science challenges in the PIPELINES Design Competition, which culminated with in-person project presentations and judging on Aug. 12. PIPELINES stands for Problem-based Initiatives for Powerful Engagement and Learning in Naval Engineering and Science, and is an eight-week summer internship for community college students majoring in STEM subjects.

PARTNERSHIPS

SIXTH SCHOOL DISTRICT JOINS COMMAND'S PARTNERSHIPS

NSWC PHD signed an Educational Partnership Agreement (EPA) with Santa Paula Unified School District on July 25, expanding opportunities to get elementary and high school students excited about STEM programs and activities, including the command-sponsored Pre-Engineering Program, a twice-yearly 10-plus week program that exposes high school students to hands-on engineering projects and challenges. NSWC PHD now has EPAs in place with six school districts, as well as more than a dozen college-level academic institutions.

ADVANCING 3D PRINTING

We administered grant funds to the University of California, Santa Barbara to explore how certain environmental factors might negatively impact additive manufacturing (AM)-produced metal parts, which could provide valuable insight once metal 3D printers regularly join other equipment on Navy warships. The $450,000 Naval Engineering Education Consortium grant, distributed over three years, will fund one postdoctoral student and up to two undergraduate students to study the microstructures of AM-produced ferrous alloys once exposed to various environmental stressors, with an eye toward using the data to improve the overall strength and reliability of 3D-printed metal items.

NSWC PHD SURPASSES SMALL BUSINESS OBLIGATION GOALS FOR FISCAL 2022

In fiscal 2022, our command continued breaking its own records for small business contracts awarded each fiscal year, and setting benchmarks for other Naval Sea Systems Command (NAVSEA) organizations. NSWC PHD achieved just over $309 million in small business contracts, up from nearly $40 million from the previous year's record of $270 million, and an even larger increase from the $247 million of fiscal 2020. This brought our fiscal 2022 small business obligation rate to 68.5% — the highest obligation rate in the NAVSEA enterprise, across all 22 contracting activities. The command also surpassed its goal of 50% small business obligations by awarding a total of 691 small business actions in fiscal 2022.

NSWC PHD ENLARGES TECH TRANSFER OPPORTUNITIES

NSWC PHD recently expanded its presence in the technology transfer arena through the division's latest Cooperative Research and Development Agreement (CRADA) with Camarillo, California-based GBL Systems Corp., a provider of systems engineering and custom software products to U.S. Armed Forces. The CRADA included the evaluation of advanced augmented reality and cyber and biometric authentication technologies and practices at Fathomwerx Lab during the 2022 Advanced Naval Technology Exercise (ANTX) and Coastal Trident Port and Maritime Security Program. Research and development efforts will focus on commercial technologies that could potentially apply to Navy ships and the warfighter, and are aligned with NSWC PHD's In-Service Engineering Agent mission.

DISTINGUISHED VISITORS

REAR ADM. SEIKO OKANO UNDERSCORES NEED FOR AGILITY, INNOVATION TO OUTPACE ADVERSARY

Program Executive Officer for Integrated Warfare Systems Rear Adm. Seiko Okano leads a group mentoring session with NSWC PHD officers in the Executive Conference Room of Building 445 on June 10. Lt. Cmdr. Travis Lippman, Littoral & Strike Warfare Department officer, listens in.

From left: NSWC PHD Commanding Officer Capt. Andrew Hoffman is joined on a March 23 tour of the command's Self Defense Test Ship by: Operational Test and Evaluation Office of the Secretary of Defense Director Nickolas Guertin; his Principal Deputy Director Raymond O'Toole Jr.; Capt. Travis Thorp, senior military advisor to the office's Air Warfare Division; NSWC PHD Technical Director Jeff Koe; Art McGettrick, SES, deputy director for Air Warfare; Capt. Brent Jaquith, executive officer to the deputy director for Air Warfare; and John Pearson, action officer for Air Warfare. During the visit, Hoffman briefed the group about ship platforms the SDTS will be testing in the near future.

PROGRAM MANAGER FOR LITTORAL COMBAT SHIPS MISSION MODULES TOURS MISSION PACKAGE CONSOLES PRODUCTION FACILITY

Capt. Godfrey "Gus" Weekes tours the Mission Package Console production line in Building 441 with Assistant Program Manager Kyle Vaden and others on June 8 at NSWC PHD. MPCs are being produced onsite at NSWC PHD at a substantial cost savings over previous contract manufacturer costs.

MDA DIRECTOR VICE ADM. HILL TALKS COMMAND HISTORY, MISSION PRIORITIES DURING VISIT

Air Dominance Department Manager Michael Horton (left) laughs with Vice Adm. Jon Hill (right) moments before an All Hands meeting on June 7 in the Auditorium.

BRITAIN'S ROYAL NAVY CHIEF TECHNOLOGY OFFICER EXPLORES NSWC PHD'S MISSION MODULAR CAPABILITIES; PLANS FOR UNMANNED T&E; LIDAR SCANNING AND POTENTIAL TECH BRIDGE EXCHANGES

From left: Mission Package Support Facility (MPSF) Manager Gene Scampone leads a tour of the MPSF high bay work area at NSWC PHD on Sept. 21 for Royal Navy Chief Technology Officer Brigadier Dan Cheeseman; British Embassy Assistant Naval Attaché Cmdr. Derek Powles and British Defense Staff Science and Technology Maritime Systems Desk Officer Richard Hughes, also from the British Embassy. The visitors learned how mission modules are prepped and staged at the facility for littoral combat ships.

INDUSTRY DAY SUCCESSFUL IN ATTRACTING 20 NEW POTENTIAL BUSINESSES

NSWC PHD Corporate Operations Department Manager Taneekia Campos, center, chats with Pugh Associates Chief Engineer John O'Neill during Industry Day at the Ventura County Office of Education in Camarillo on June 14.

FATHOMWERX LAB HOSTS NAVY REGION SOUTHWEST COMMANDER AND NBVC CO

Navy Region Southwest Commander Rear Adm. Brad Rosen, right, gives his attention to Ventura Tech Bridge Director Alan Jaeger, left, during a tour of Fathomwerx Lab at the Port of Hueneme on Sept. 13. The tour was just one part of a day-long agenda for the Executive Steering Committee that also brought the group to visit facilities at NSWC PHD.

FLEET READINESS

U.S. NAVY'S SURGE MAINTENANCE HELPS PREPARE SDTS FOR INSPECTION

Reservists with the U.S. Navy's Surge Maintenance (SurgeMain) program provided time, effort and additional skills to NSWC PHD's Self Defense Test Ship (SDTS) to help her crew prepare for a Board of Inspection and Survey review in November. The SurgeMain team members' work was predicted to exceed 1,000 days or 9,000 hours.

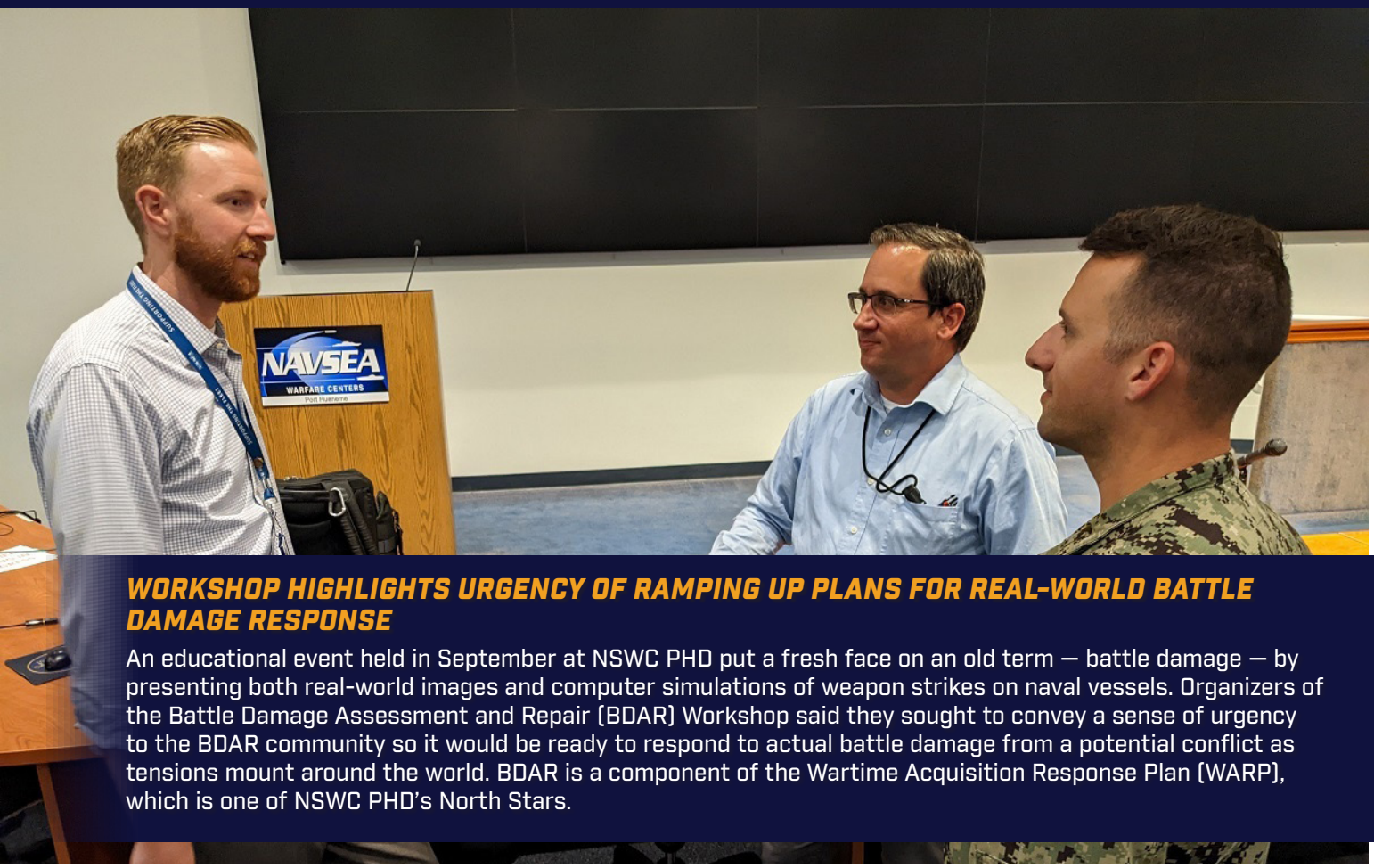
SDTS AND CREW BOOST INSPECTION SCORES

The command's nearly 50-year-old decommissioned destroyer, the Self Defense Test Ship (SDTS), and its crew earned kudos and several improved scores from the Board of Inspection and Survey (INSURV) during a recent assessment. The INSURV team inspected the ship from Nov. 2 to 4 at NSWC PHD and gave the ship and her crew an assessment indicating significant improvement in recent years, reflecting NSWC PHD's work to get the SDTS up to speed on compliance, from establishing clearer operating standards to properly documenting technical changes.

COMMAND REORGANIZES TO SUPPORT CURRENT AND FUTURE FLEET

NSWC PHD underwent a two-and-a-half year command-wide reorganization — a research-guided and customer-supported effort to improve its efficiency and responsiveness to the Navy's call for urgency. Completed in October, this forward-focused restructuring serves as the foundation for a more sustainable workforce, smartly aligning with customer requirements and driving results into fleet systems.

FS
FUTURE STATE
TASK FORCE
TF



WORKSHOP HIGHLIGHTS URGENCY OF RAMPING UP PLANS FOR REAL-WORLD BATTLE DAMAGE RESPONSE

An educational event held in September at NSWC PHD put a fresh face on an old term — battle damage — by presenting both real-world images and computer simulations of weapon strikes on naval vessels. Organizers of the Battle Damage Assessment and Repair (BDAR) Workshop said they sought to convey a sense of urgency to the BDAR community so it would be ready to respond to actual battle damage from a potential conflict as tensions mount around the world. BDAR is a component of the Wartime Acquisition Response Plan (WARP), which is one of NSWC PHD's North Stars.

BATTLE DAMAGE ASSESSMENT

NSWC PHD DEMONSTRATES REMOTE MAINTENANCE

Project teams from NSWC PHD successfully demonstrated technologies that enable remote maintenance of weapon systems and battle damage assessment of underway ships during the Trident Warrior 2022 fleet exercise in August. The command tested the Augmented Reality Remote Maintenance Support Service system aboard USS Abraham Lincoln (CVN 72) and the Combat System Maintenance Assistance Program on USS Spruance (DDG 111). The experiments tested technologies that, if successfully implemented, would fulfill the command's guiding North Star to eliminate onboard tech assists by 2030, most likely by using remote assistance systems. Remote assistance would also eliminate the expensive cost of sending technicians to ships while at sea.

Information Systems Technician 2nd Class Christina Woodward of USS Abraham Lincoln's (CVN 72) information technology department tries out an augmented reality headset during the final Trident Warrior 2022 exercises in the Pacific Ocean that NSWC PHD participated in.

USS Abraham Lincoln (CVN 72) during Trident Warrior 2022 exercises.

An unmanned aircraft system captures images of the decommissioned frigate ex-Boone (FFG 28) in Philadelphia in mid-February. UAS images can be stitched together with scans from a tripod-mounted lidar device to build a comprehensive 3D model of a ship.

MEGAPROJECT TESTS LIDAR MODELS FOR BATTLE DAMAGE ASSESSMENT

Between a static detonation and a test evolution, a decommissioned frigate took hits to help the Navy test a new use for lidar scanning and 3D ship models — assessing battle damage. The static detonation training event in late March, in which an explosive charge was placed aboard the ship for the purpose of damaging it, and the evolution were critical pieces of a lidar-focused megaproject funded by the Naval Innovative Science and Engineering (NISE) program. NSWC PHD, NSWC Philadelphia Division and NSWC Carderock Division secured NISE funds for the cross-warfare center collaboration. As part of the project, the warfare centers are working together to build 3D models of entire ships from lidar scans, aiming to expand the use of those models to battle damage assessment and repair as well as to installation and modernization, and other fleet applications.

CAREER AND LEADERSHIP DEVELOPMENT

NSWC PHD Chief Learning Officer Carina Reeves introduces the first speaker at the Leadership Symposium, Dr. Steven Braverman, director of the Department of Veterans Affairs Greater Los Angeles Healthcare System, Jan. 19 at the command Auditorium.

COMMAND BOOSTS WORKFORCE LEADERSHIP SKILLS

More than 400 supervisors, branch managers, customer advocates and other leaders across the command heard insightful tips on how to lead a team — particularly in challenging times — and the importance of communication when it comes to both leadership and innovation during a special symposium hosted by NSWC PHD's Chief Learning Officer Team, Jan. 19. This was the command's third leadership symposium to help advance skills and further develop the competency of NSWC PHD's leaders, both current and future.

Michael Panesis, executive director of the Steven Dorfman Center for Innovation and Entrepreneurship at California Lutheran University, delivers his keynote speech titled Design Thinking during the Leadership Symposium held on Jan. 19 at the command Auditorium.

NAVAL ACADEMY INTERNS EXPLORE ENGINEERING DUTY OFFICER CAREERS AT NSWC PHD

Midshipmen from the U.S. Naval Academy learned about the impact of engineering duty officers (EDOs) as well as civilians in the Navy during an internship at NSWC PHD this summer. The eight interns from the Naval Academy in Annapolis, Maryland, gained early exposure to the EDO community — which many midshipmen aren't aware of — as they shadowed NSWC PHD officers, interacted with civilian engineers, and toured ships and facilities over the course of four weeks. EDOs are career naval officers with advanced degrees who provide technical and business leadership to the fleet in areas such as design, acquisition, construction, maintenance and modernization.

Acquisition Branch Manager Shane Guilford leads his Flank Speed meeting called Sessions with Shane on May 19 at his office in Building 445 at NSWC PHD. Guilford shares his tips, tricks and more on how to best use the Microsoft 365 suite of tools, including Flank Speed, Teams, One Drive and more. Since the knowledge he imparts is of interest beyond the command campus, "Sessions with Shane" has recently begun appearing on the calendar page of the Warfare Centers Knowledge Forum wiki, available to any team members across the Naval Sea Systems Command enterprise.

SESSIONS WITH SHANE AVAILABLE ON WARFARE CENTER FORUM

The command contributes to the Warfare Centers Knowledge Forum, a calendar of educational events presented by any of the 10 Naval Sea Systems Command (NAVSEA) warfare centers, with the topic-focused mentoring program "Sessions with Shane," which NSWC PHD Acquisition Branch Manager Shane Guilford holds monthly via Flank Speed Teams in conjunction with the command's workforce development office. Guilford shares his tips, tricks and more on how to best use the Microsoft 365 suite of tools.

From left: NSWC PHD's Commanding Officer Capt. Andrew Hoffman, Cmdr. Colin Monk and Cmdr. Adrian Laney.

NSWC PHD'S WHITE SANDS DETACHMENT UNDERGOES CHANGE OF CHARGE; NEW OFFICER BRINGS BROAD TEST AND EVALUATION BACKGROUND

NSWC PHD's White Sands Detachment in New Mexico, the site of prolific missile testing, suborbital rocket launches and the landlocked USS Desert Ship (LLS 1), has a new leader at the helm with broad experience in testing and evaluating a variety of missiles and other weapons. As Cmdr. Colin Monk concluded a three-year tour as officer in charge at the detachment, Cmdr. Adrian Laney, a former project officer at NSWC PHD, took on the leadership position in a change-of-charge ceremony on May 12. Set on the roughly 2 million-acre White Sands Missile Range, NSWC PHD's White Sands Detachment conducts live-fire testing of missiles and other naval weapons, along with launching suborbital sounding rockets for scientific research.

From left: Capt. Tony Holmes, incoming commanding officer of NSWC PHD; Rear Adm. Kevin Byrne, commander of Naval Sea Systems Command's Naval Surface Warfare Center and Naval Undersea Warfare Center; and Capt. Andrew Hoffman, outgoing commanding officer of NSWC PHD, salute as the national anthem plays during a change of command ceremony in the Building 1388 Auditorium on Dec. 2. Byrne oversaw the change of command as Holmes succeeded Hoffman, who led NSWC PHD since mid-2020.

NSWC PHD RECEIVES NEW COMMANDING OFFICER CAPT. TONY HOLMES

After serving two tours with NSWC PHD earlier in his career, Capt. Tony Holmes returned to take on a new role: commanding officer. Holmes relieved Capt. Andrew Hoffman in a change of command ceremony on Dec. 2. During Hoffman's two-and-a-half years as commanding officer of NSWC PHD, he spearheaded efforts to align the command to future fleet requirements and guided NSWC PHD smoothly through the COVID-19 pandemic. As Holmes took the helm, he brought deep experience with a variety of naval outfits, including NSWC PHD. From 2011 to 2014, he oversaw one of the command's primary departments focused on test and evaluation. From 2016 to 2019, he served as officer in charge at NSWC PHD's White Sands Detachment in New Mexico.

PORT HUENEME PROUD

USNS John Lewis (T-AO 205) docks at Naval Base Ventura County the morning of Nov. 4 for a stores resupply and minor repairs from builder representatives on site. The ship is the largest underway replenishment oiler ever constructed and was named after U.S. Rep. John Lewis, a civil rights activist who served in the United States House of Representatives for Georgia's 5th congressional district from 1987 until his death in 2020. All future ships in the T-AO 205 class will be named after Americans who fought for civil rights and human rights. (U.S. Navy photo by Dana Rene White/Released)