



# FY24 YEAR IN REVIEW

Naval Surface Warfare Center  
Panama City Division



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# FORWARD

from the  
Commanding Officer  
& Technical Director



**CAPT David Back, USN**  
Commanding Officer



**Dr. Peter Adair, SES**  
Technical Director

As we close out Fiscal Year 2024 (FY24), it's evident that this Navy lab has once again delivered exceptional results, driven by our unwavering commitment to addressing the evolving needs of the warfighter at every level of our organization. The sheer volume of accomplishments achieved during FY24 is truly impressive, making it a challenge to compile a comprehensive list, which is a good problem to have. However, we'd like to take a moment to highlight a few notable successes from Naval Surface Warfare Center Panama City Division (NSWC PCD) showcasing the outstanding work and dedication of our team.

- After more than 40 years in service, the In-Service Engineering Agent (ISEA) and Depot Maintenance Activity performed the final routine overhaul for a U.S. MK 8 SEAL Delivery Vehicle (SDV) marking a "changing of the guard" to the next generation SDV.
- The Navy Enterprise Tactical Command and Control Team provided emergency continuity of operations support to Naval Computer and Telecommunications Area Master Station Atlantic Detachment Rota, Spain.
- NSWC PCD developed and tested multiple systems to further the advancement of the U.S. Navy capabilities in mine warfare and unmanned systems operations.
- The command's Comptroller Department's Payroll and Systems Branches collaborated to design, develop and release the department's first robotic process automations bot that processes time and attendance reports, reducing labor hours and overhead costs.
- The NSWC PCD Contracts Department awarded over \$237M in obligations with over 52% going to small businesses. In addition, the Government Purchase Card program received a highly satisfactory on their Procurement Performance Management Assessment Program review and the Department received a satisfactory on its Procurement Surveillance review.
- Eight of NAVSEA's Excellence Awards were awarded to personnel from NSWC PCD during a ceremony at the Washington Navy Yard, Aug. 14. The achievement demonstrates NSWC PCD's commitment to supporting the warfighter and aligning to NAVSEA's Enterprise Strategy.

The pace of innovation and progress at NSWC PCD is relentless, with a wide range of exciting projects and initiatives underway at any given time. Not only did the organization innovate to deliver capabilities to the fleet, but the command also underwent a transformation while doing so.

July 1, 2024 also marked a significant milestone with the official implementation of the command reorganization, widely referred to as "the ReOrg." This strategic initiative aimed to thoroughly restructure our technical departments, driven by several key objectives, including:

- Consolidate full lifecycle execution of mission areas within a single department
- Collocate Science & Technology experts with mission areas
- Create more focus on Subsea and Seabed Warfare and Special Warfare
- Level the size of its departments, divisions, and branches
- Streamline roles, responsibilities, and accountability

With this, the technical departments, as well as several branches/divisions, were renamed to better depict the work these groups are aligned to support. The new technical department names are:

**S Department:** Subsea and Seabed Warfare and Maritime Operations Department

**E Department:** Expeditionary Warfare and Littoral Operations Department

**A Department:** Mine Warfare and Unmanned Operations Department

To give you a deeper look at the impressive work being done here, we've compiled a selection of highlights and success stories in the following pages. We invite you to read on and discover the breadth and depth of our efforts and learn more about the many ways in which NSWC PCD is driving advancement and supporting the fleet.

As we reflect on our accomplishments, it's clear that there's a great deal to be proud of, and every achievement is a testament to the tireless efforts and unwavering commitment of our team members. As we embark on a new year, we're poised to seize even more significant opportunities to make a meaningful difference in the fleet and support our warfighters. We are confident that, together, we will overcome every challenge and surpass expectations, driven by our shared dedication to serving our nation, the U.S. Navy, and the American people.



# DOMINATE THE LITTORALS

## ABOUT

Located on St. Andrew Bay in Panama City, Fla., the Naval Surface Warfare Center, Panama City Division (NSWC PCD) is the Navy's principal organization responsible for Research, Development, and Test and Evaluation in the littoral battlespace. Our goal is to solve warfighter challenges by fully understanding the Navy's mission in the Littorals, adapting to changing requirements, transitioning technology to operational systems, and rapidly delivering warfighter solutions. We will develop innovative solutions to meet Fleet requirements, design systems and solutions that are operationally effective and suitable, take responsible risks, and leverage our partners across the Naval Research and Development Establishment.



### Acoustics, Signals & Signal Processing

Exploring novel acoustic sensing concepts and signal processing techniques for unmanned platforms to expand our advantage in the littorals.

### Artificial Intelligence & Machine Learning (AI/ML)

Developing and applying AI/ML techniques to problems in the littorals in order to provide warfighting decision aids and optimized autonomous mission planning and execution.

### Biotechnology

Developing technologies that utilize biological systems, living organisms, or biological behaviors to address problems in the marine environment.

### Integrated Sensing & Quantum Technology

Developing wideband sensors to enable operation in contested environments that require seamless functionality across multiple sensing modalities to include intersection with leap-ahead capabilities afforded by quantum sensors, quantum computing, and quantum communications.

### Cybersecurity

Pursuing R&D efforts to influence cyber resilience at all phases of systems life cycle engineering including design, construction, deployment, and execution.

### Electro-Optics

Exploring specialized electro-optical sensors to support detection, classification and identification (DCI) of threats and other targets at actionable distances within a broad range of operating environments.

### Electromagnetics

Exploring the full electromagnetic spectrum to develop advanced imaging and electronic warfare capabilities.

### Mission & System Analysis

Advancing techniques for analysis and assessment of littoral systems.

### Integrated Networks

Developing fully networked command, control, communication, and computer technologies capable of acquiring, processing, and disseminating information across force elements, in real-time; providing intelligence, surveillance, reconnaissance, and targeting to support operations in contested environments.

### Advanced Materials

Exploring advanced material and design solutions unique to the marine environment, including additive and novel manufacturing techniques to improve material capabilities.

### Modeling & Simulation (M&S), Big Data Analytics

Applying a multi-tiered, multi-disciplinary approach to M&S (including Live Virtual Constructive) to the assessment of new technology developments that optimize system performance; and to incorporate the demands of big data analytics into M&S as a precursor to future dynamic data-driven systems.

### Ocean Sciences & Sensing

Researching ocean phenomena and biological behaviors to enable novel solutions for undersea sensing, communications, and control.

### Robotics & Human Machine Interface

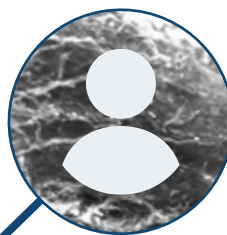
Developing and analyzing automated machine technology and applications that can take the place of humans, or result in more efficient operations, in dangerous Naval and maritime environments and develop technologies related to human-machine teaming to enhance warfighter performance.

### Unmanned Systems & Autonomy

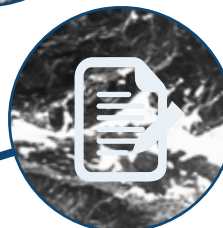
Developing and fielding unmanned systems and associated technologies to reduce operational timelines and remove humans from hazardous environments; and advance autonomous and human behaviors to optimize mission planning, training, system command and control, and mission execution of littoral systems.



# WORKFORCE IN NUMBERS AT THE END OF FY24



**EMPLOYEES: 1,640+**  
139 New Hires | 38 Retirees



**CONTRACTORS: 1,060+**  
579 On Site | 482 Off Site



**DEGREES**  
773 Bachelors  
443 Masters  
76 Doctorates  
978 STEM Careers



**MILITARY PERSONNEL**  
21 Active Duty  
1 Personnel Exchange Program (PEP)  
17 Personnel Force Innovation (PFI)

## MISSION

The mission of NSWC, Panama City Division is to conduct research, development, test and evaluation, and in-service support of mine warfare systems, mines, naval special warfare systems, diving and life support systems, amphibious and expeditionary maneuver warfare systems, and other missions that occur primarily in coastal (littoral) regions, and execute other responsibilities as assigned by Commander, Naval Surface Warfare Center.

## EXECUTIVE LEADERSHIP

**CAPT David Back, USN**  
Commanding Officer

**Dr. Peter Adair, SES**  
Division Technical Director

**Michael Adams**  
Chief of Staff

**LT Jake Waggoner, USN**  
Executive Officer (Acting)

**Steve Grant, SSTM**  
Deputy Technical Director (Technical)

**Andrea Perles, SSTM**  
Director, Mine Warfare

**NDCM Jay Cox, USN**  
Senior Enlisted Leader

**Kimberly Ten Broeck**  
Deputy Technical Director (Business)

## DEPARTMENT HEADS

NAME	CODE	TITLE
Kevin Oakes, SSTM	<b>A</b>	Mine Warfare and Unmanned Operations
Steve Hunt, SSTM	<b>E</b>	Expeditionary Warfare and Littoral Operations
Dr. Todd Holland, SSTM	<b>S</b>	Subsea and Seabed Warfare and Maritime Operations
Stacy Gibson	<b>01</b>	Comptroller
Mary Langfeldt	<b>02</b>	Chief Contracting Officer
Dr. Jaimie Brock	<b>10</b>	Corporate Operations

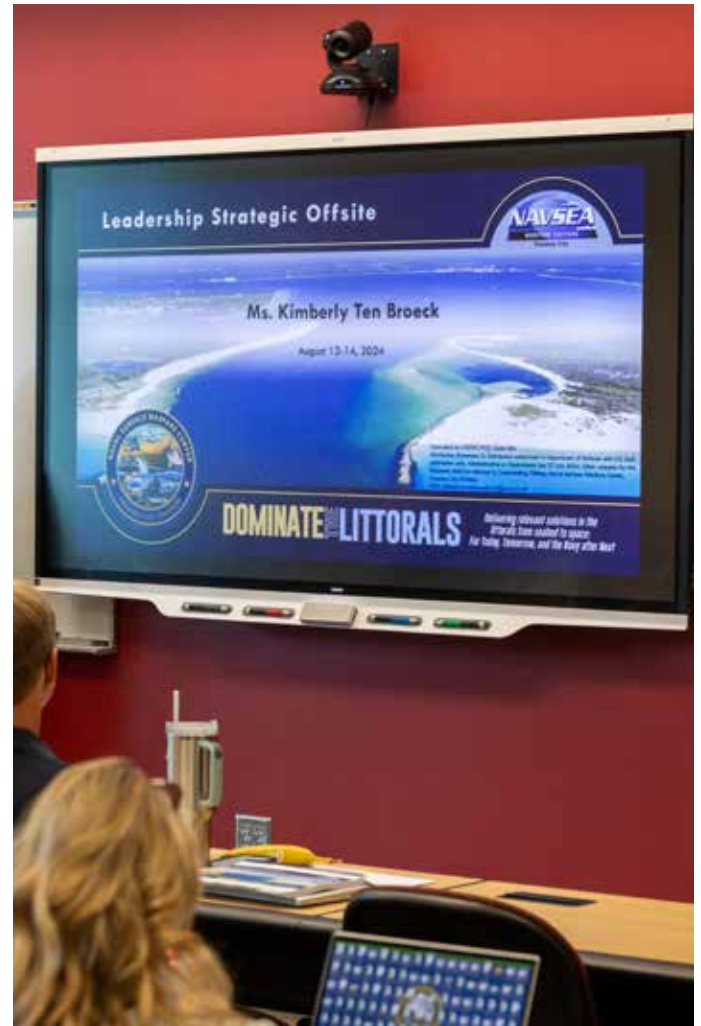
# STRATEGY

## STRATEGIC PLANNING

Strategic planning enables the command to make prudent investments in the future of NSWC PCD while simultaneously addressing the current requirements of the Navy. In FY24, the leadership team of the command formulated the vision and mission statements for this Navy lab. Building upon this groundwork, the Strategic Planning initiative formally introduced the new strategic plan this year, outlining the command's strategic objectives. These objectives have been instrumental in guiding the organization's decision-making processes regarding its business operations and in showcasing its commitment to responsible financial management.

In preparation for the strategic rollout, the Strategic Planning team conducted several off-site sessions with command leadership. These sessions were crucial in identifying actionable steps to effectively implement the strategy. A key focus of the command's reorganization was embedding science & technology (S&T) across all technical departments. This emphasis on S&T is vital to ensure the development of innovative solutions that address warfighting needs within NSWC PCD's mission areas. To further support these goals, the organization is making integrated investments to increase its information technology (IT) assets and secure dedicated spaces. These resources are critical enablers, empowering NSWC PCD to achieve warfighting dominance within its mission areas.

By consistently executing its strategic plan, NSWC PCD will maintain its critical role in dominating the littorals.





### Contribution to the Warfighter

- Design novel solutions to warfighting needs in our mission areas
- Deliver operationally relevant solutions to deter and defeat the nation's adversaries
- Apply our expertise to the emerging mission area of subsea and seabed warfare
- Maintain a healthy balance of S&T, RDT&E, and Sustainment workload

### Technical Excellence

- Consistent, on time delivery of quality products and services
- Assert credible technical leadership throughout the Department of the Navy
- Leverage cutting edge tools and technologies to increase efficiency and effectiveness

### Expert Workforce

- Embody our core values and guiding principles
- Increase our understanding of the nation's threats and our mission areas
- Hire, train, and align personnel to fulfill our future workload needs

### Business Excellence

- Strategically align our workload, workforce, investments, and facilities
- Strengthen business proficiency across the organization
- Enhance strategic partnerships with government, academia, industry, and allies
- Revitalize and expand infrastructure to increase secure space, lab space, and IT capabilities

### Financial Stewardship

- Ensure our products and services remain highly valued and affordable for our customers
- Improve financial proficiency by strengthening knowledge and execution of funds management

# STRATEGIC PLAN

Naval Surface Warfare Center Panama City Division

# PARTNERSHIPS

## THE ARCTIC REGION

The Arctic region is a strategic national security concern. Operating in any of Earth's polar and cold regions (the Arctic and Antarctic, as well as sub-arctic and seasonally frozen locations) remains an extremely challenging endeavor due to harsh and rapidly changing weather, austere infrastructure, and a general lack of operational experience. The Polar Operational and Scientific community recognizes these challenges and in response identified potential capability gaps and launched operational and scientific and technological initiatives to address them. Specifically in 2019, the International Cooperative Engagement Program for Polar Research (ICE-PPR) was established to enable global defense departments working in Earth's Polar Regions to collaborate across a variety of research and engineering topics. The seven nation ICE-PPR coalition includes: Canada, Denmark, Finland, Norway, Sweden, New Zealand, and the U.S. The U.S. Office of Naval Research Global (ONRG), working with ICE-PPR, is conducting market research in unmanned aircraft systems (UAS) capable of ice detection and mapping, domain awareness, object recognition,

payload delivery, navigation with limitations of the Global Positioning System at high latitudes, launch and recovery operations from air bases and surface ships, and the endurance of unmanned aerial vehicles (UAVs) in extreme environments (arctic winter temperatures, fog, 24/7 night conditions).



Current UAS are highly limited in the Arctic environment; particularly those deployed from a small surface ship (Surface Combatant, Cutter, Ice Breaker, or smaller) in challenging environmental conditions. ONRG experimentation and analysis (E&A) assesses technologies both in laboratory and real-world operational environments to inform S&T investment decisions. This E&A program, referred to herein as "Frozen Flyer," also explores new and innovative technologies and concepts of employment to deliver capabilities to DoN organizations.

In FY24, multiple cooperative research and development agreements (CRADA) were put in place to support the Frozen Flyer project, under which multiple companies demonstrated their AUS capabilities in Camp Grafton North Dakota, as well as Pituffik Space Base, Greenland. The demonstration was a success!

# 14 NEW CRADAS WERE SIGNED IN FY24.

## CRADA

In FY22, a three-way CRADA between NSWC PCD, Portsmouth Naval Shipyard, and Radiation Safety and Control Services (RSCS) was signed to support the Autonomous Dry Dock Survey System (ADDS). In 2019, NSWC PCD developed an unmanned ground vehicle to support the ADDS under NSWC PCD's Technical Director's Cup competition at the Navy lab. In FY23, engineers from NSWC PCD integrated the Surface Contamination Monitor sensor from RSCS onto the vehicle and completed initial testing in September of 2023. This robotic system will provide significant cost savings to the Navy of up to 450 man-hours per dry dock, per year, and introduce artificial intelligence capabilities into naval shipyard environments.

In FY24, the NAVSEA ADDS teams received the One NAVSEA Teamwork Award for Collaboration.





# QUALITY

- » Team member led NSWC PCD's Problem Resolution Process.
- » The NSWC PCD Quality Management System (QMS) was reviewed and the rebuild is underway.
- » The office initiated a major revision of the QMS Policy and Procedures.
- » Issuance of NSWC PCD INSTRUCTION 4855.3E on April 3, 2024. This instruction establishes policy and requirements for execution of the NSWC PCD QMS, as required by NAVSEA Warfare Centers Headquarters instructions.
- » Code 00Q assisted NSWC PCD's Corporate Operations Department, Environmental Branch, and Corporate Business Division with building their own QMS and documentation.



**Heidi Serrano Vargas**

**Quality Director**



**Somaris Fontanez Lopez**

**Naval Acquisition  
Development Program  
Entry Level Employee -  
Engineer**



**LaCarla Evans**

**Engineer**



**Rick Campbell**  
**Operations Research Analyst**

**ACHIEVED AMERICAN  
SOCIETY FOR QUALITY  
INTERNATIONAL  
ORGANIZATION FOR  
STANDARDIZATION  
9001 AUDITOR  
CERTIFICATION.**

## CERTIFICATE OF ATTAINMENT

**Richard Campbell**

**ISO 9001:2015 Certified Lead  
Auditor Training**

**QM - Quality Management Systems (TPECS)**

Competency Date: 12/03/24

Certificate No: QM6779

**AU - Auditing Management Systems (TPECS)**

Competency Date: 12/04/24

Certificate No: AU11328

**TL - Leading Management Systems Audit Teams (TPECS)**

Competency Date: 12/05/24

Certificate No: TL7563



**CTUs 3.2**

Certificate Issue Date:  
12/13/24

*Ben Ames*

**Ben Ames**  
General Manager

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# STEM

SCIENCE, TECHNOLOGY,  
ENGINEERING AND MATHEMATICS

## COLLABORATION PARTNERS



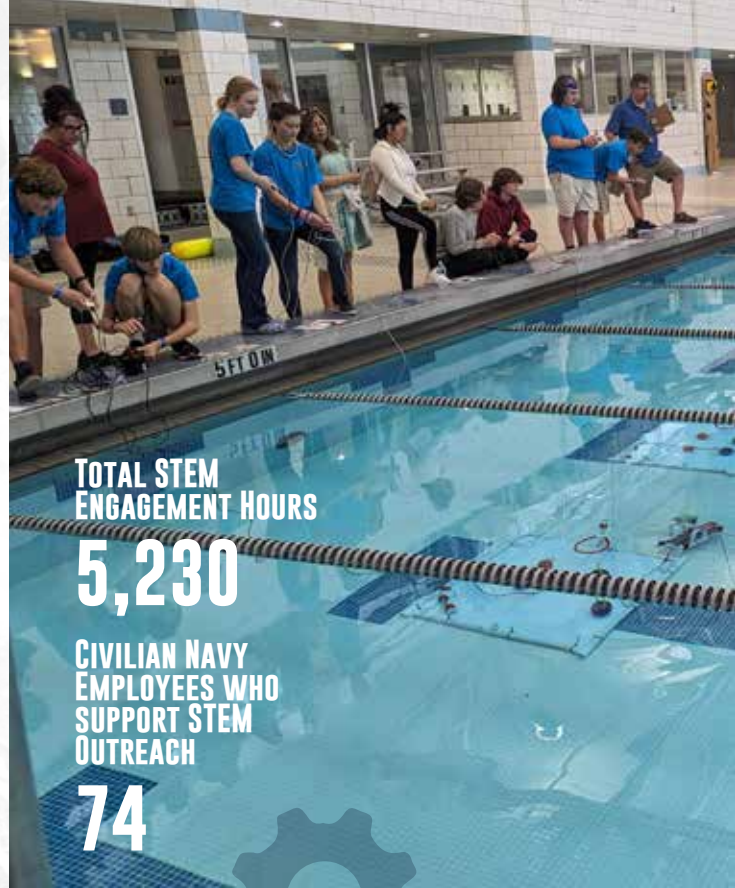
DOOLITTLEINSTITUTE  
speed-innovation-solutions



AMI KIDS

## STEM INITIATIVES

- STEM in a Box / STEM on Campus / STEM on the Move
- RoboNation (SeaPerch, RoboBoat, RoboSub, RobotX)
- For Inspiration and Recognition of Science and Technology
- STEM Camps
- Scientist @ School
- Science and Engineering Apprenticeship Program
- University Engagement



TOTAL STEM  
ENGAGEMENT HOURS

5,230

CIVILIAN NAVY  
EMPLOYEES WHO  
SUPPORT STEM  
OUTREACH

74

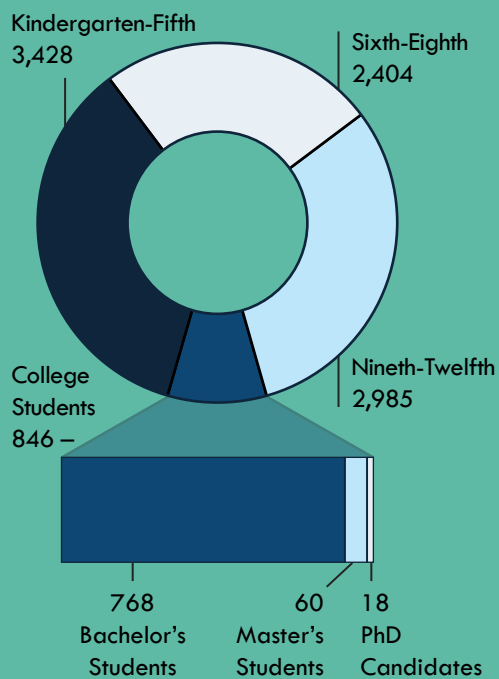


PRACTICE  
TABLE  
15





## STUDENTS WHO BENEFITED FROM STEM OUTREACH



# CHENG

## CHIEF ENGINEER OFFICE

“ BY ADDING POSITIONS REQUIRING CPP PROFICIENCY LEVELS, IT ENSURES THAT NSWC PCD’S TECHNICAL WORKFORCE IS EQUIPPED WITH THE KNOWLEDGE, TRAINING, AND EXPERIENCE TO PERFORM THEIR ROLES IN SUPPORT OF OUR DELIVERABLES THAT SUPPORT THE WARFIGHTER.






As part of executing the Competency Proficiency Program (CPP), additional positions were added to the critical position list that requires individuals in those positions to attain their proficiency level in the CPP program as a performance objective. In FY24, project lead software engineers and project lead logisticians were added to the critical position list. By adding positions requiring CPP proficiency levels it ensures that NSWC PCD's technical workforce is equipped with the knowledge, training, and experience to perform their roles in support of our deliverables that support the warfighter.

The CHENG office continued to embrace digital transformation throughout this year. In FY24, portfolios and projects were asked to document their issues in our risk management tool as part of improving our systems engineering practices at NSWC PCD. In the area of project management, project planning activities were moved to different digital tools to aid in the planning and execution tracking of our projects. Data visualizations were created not only to help the individual projects, but also to provide other stakeholders within the command the ability to increase their data-driven decisions with real time data available on a digital platform.


Finally, as part of the command's wartime readiness efforts, the CHENG's office was involved in coordinating and leading the command through several exercises during the year and continues to be a leader in wartime readiness across the NAVSEA Warfare Centers enterprise.



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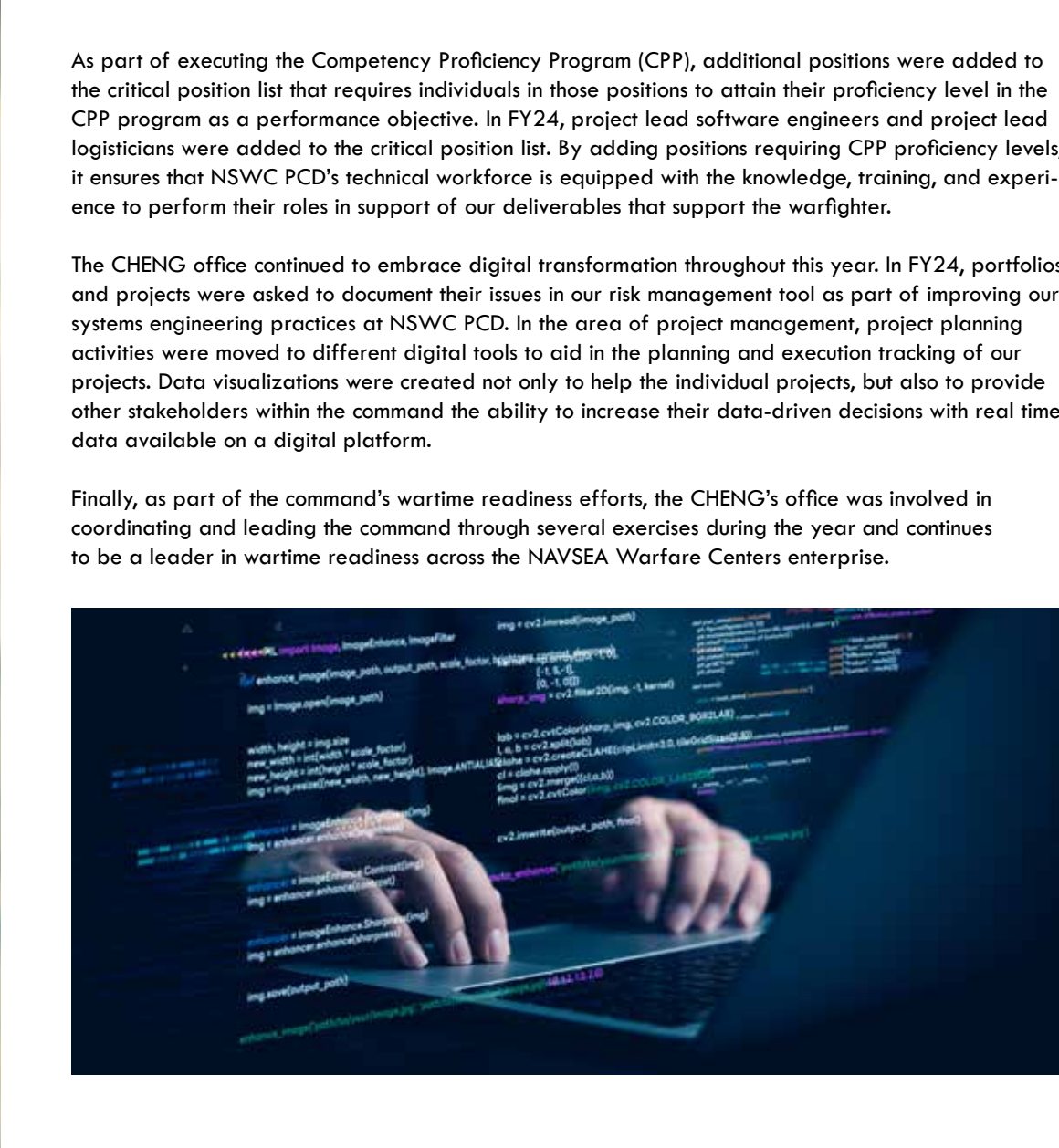
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A photograph showing a person's hands typing on a laptop keyboard. The background is a blurred, glowing display of computer code in various colors (blue, green, yellow, red) on a dark screen, suggesting a software development or data analysis environment.

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# A DEPARTMENT

## Mine Warfare and Unmanned Operations

### SCIENCE AND TECHNOLOGY

#### Science, Technology, Engineering and Innovation Vehicle

NSWC PCD developed and tested the Science and Technology Innovation Vehicle (STEIV), a fully government-owned prototype hybrid unmanned underwater vehicle. The combination of technologies developed under the Sensor Data Fusion & Precision Payload Delivery (SDFPPD) program provides an integrated solution for the re-acquisition and prosecution of proud, partially-obscured, and buried mines that reduces the number of sorties needed to accomplish a mine countermeasures (MCM) mission.

#### Rapid Large Area Clearance System

NSWC PCD has integrated automated target recognition (ATR), autonomous unmanned ground vehicle surface target reacquisition, and autonomous detection of deeply buried unexploded ordnance capabilities into the Rapid Large Area Clearance (RLAC) system of systems. RLAC meets the desire of the Joint Service Explosive Ordnance Disposal Community for a lightweight capability that can rapidly assess unexploded ordnance (UXO) in large operational areas and mitigate UXO at standoff distances.

#### Coastal Battlefield Reconnaissance and Analysis (COBRA)

The COBRA system participated in the Marine Corps Technical Concept Experiment 23.2 at Camp Pendleton, Calif., with its Block I-3A system and Hardware Development Program (HDP) pods using manned commercial helicopters. The exercise allowed the Marine Corps to understand current and future airborne MCM technology and provide fleet user feedback on capabilities and concept of operations. COBRA utilizes a multi-spectral camera to identify mines in the surf zone and beach zone areas of the littoral battlespace.

#### Joint Direct Attack Munition Assault Breaching System (JABS)

The JABS team completed the final lethality characterization analyses for the MK84 and BLU-117 munitions against mine and obstacle targets in the surf zone (0-10 ft. of water) and on the beach. This concludes a 22-year test and evaluation effort to develop lethality planning data for use in assault breaching missions. The planning data is being prepared for delivery to MINEnet Tactical and dissemination to the fleet. The JABS team also provided tactics and software training during the MCM Staff Continuum that was held at Naval Surface and Mine Warfighting Development Center (SMWDC) ahead of the Baltic Operations (BALTOPS) exercise and Mine Warfare Commander (MIWC) Certification Event.





Joint Direct Attack Munition  
Assault Breaching System at  
moment of impact and post  
impact at test range.



Joint Direct Attack Munition  
Assault Breaching System explo-  
sion at test range.



**NSWC PCD DEVELOPED  
AND TESTED MULTIPLE  
SYSTEMS TO FURTHER THE  
ADVANCEMENT OF THE U.S.  
NAVY'S CAPABILITY IN MINE  
WARFARE AND UNMANNED  
SYSTEMS OPERATIONS.**

Science and Technology  
demonstrations are furthering  
the Navy capability in the air,  
on the ground, and undersea.

COBRA Hardware Development Program pod installed on test platform helicopter.



## RESEARCH AND DEVELOPMENT

### First MCM Mission Package (MCM MP) Embarked

The U.S. Navy embarked the first MCM MP aboard USS Canberra (LCS 30) on April 18, 2024. As part of the embark process, the Navy installed sensors, unmanned vehicles, support containers and the software that enables sailors to execute MCM operations from an Independence-variant Littoral Combat Ship. NSWC PCD fielded six AN/AQS-20C mine hunting sonars - two each to USS Canberra (LCS 30), USS Tulsa (LCS 16), and USS Santa Barbara (LCS 32).

### Multi-Vehicle Communications System (MVCS)

The MVCS participated in multiple fleet events to introduce Beyond Line of Sight (BLOS) as a new capability to the MCM MP communication's baseline. The Starshield system integration was rapidly prototyped and installed on several unmanned surface vehicle (USV) and small USVs to demonstrate the capability during fleet experiments and exercises. The MVCS fleet exercise participation provided two major impacts to the US Navy: a new communication system for a new sUSV platform, and integration/evaluation of the Starshield system as a BLOS capability for the MCM MP. This second task resulted in a successful assessment and tasking to install Starshield on the ship and the USVs.

**Unmanned Surface Vehicle:** The MCM MP and LCS Over-watch capabilities were qualitatively and quantitatively assessed aboard USS Canberra (LCS 30) in the San Diego operational area. Overall, 18 of 25 technical objectives were completed allowing the program to quantify the risk associated with operating a MCM USV given its current situational awareness capability.

**Mk 18 Unmanned Underwater Vehicle Family of Systems:** NSWC PCD, Naval Information Warfare Center Pacific, and Japanese Maritime Self Defense Force (JMSDF) personnel deployed and operated a MK 18 Mod 1 Block C unmanned underwater vehicle (UUV) with a Kraken synthetic aperture sonar installed during eight missions in July 2024 to demonstrate autonomous MCM, undersea, and seabed capabilities in Mutsu Bay, Japan during Integrated Battle Problem (IBP) 24.3, which is a defense collaboration between the U.S. Navy and JMSDF.

**NSWC PCD demonstrated new capabilities aboard U.S. Navy ships in mine warfare and unmanned systems operations.**

*An AQS-20 mine hunting sonar in its maintenance stand is verified ready for operations before being shipped to the fleet.*





## NSWC PANAMA CITY DIVISION DEVELOPED AND DEMONSTRATED NEW CAPABILITIES TO FURTHER U.S. NAVY CAPABILITY IN MINE WARFARE AND UNMANNED SYSTEMS OPERATIONS.

*Mk 18 Mod 1 UUV being lowered to the waterline for launch from a ship during Integrated Battle Problem 24.3.*

*An unmanned surface vehicle is craned aboard the Independence-variant littoral combat ship USS Canberra (LCS 30), as a part of the first embarkation of the Mine Countermeasures (MCM) mission package, April 23. The MCM mission package is an integrated suite of unmanned maritime systems and sensors which locates, identifies, and destroys mines in the littorals while increasing the ship's standoff distance from the threat area.*





*AN/AQS-24 being loaded aboard MH-53 helicopter.*

## IN-SERVICE/FLEET SUPPORT

### AN/AQS-24 Towed Minehunting Sonar System:

The AN/AQS-24 team completed test and fielding of a software update for cybersecurity compliance, enhanced operator interface, and improved ATR functionality for Helicopter MCM Squadron Fifteen and the Minehunting Unit detachment in Bahrain. The team implemented engineering change proposals to improve system reliability and maintainer workload with focus on the volume search sonar sensor assembly. Subject Matter Experts supported training, maintenance, and flight operations for two Helicopter Advanced Readiness Program (HARP) events.

### MK-105 Magnetic Minesweeping System

The MK-105 team answered 12 significant reach-back or maintenance actions providing repair procedures, components, and adjustments to ensure MK-105 sleds were ready for operations.

### Airborne Mine Countermeasures (AMCM) Mechanical Gear and Winch

AMCM Mechanical Gear and Winch team filled 25 mission essential Casualty Report (CASREP) requisitions with 76 individual items all having zero quality defects. In addition to these requisitions, the team also managed another 49 CASREP requisitions for 102 items for other AMCM systems. The AMCM Winch Depot delivered 12 MH-53E winches.

### Tactics, Analysis, and Mine Warfare Software Tool Development

The Analysis, Tactics and Simulation Division demonstrated significant progress in advancing MCM capabilities, technological development, and Fleet readiness in FY24. The division provided critical support through analysis efforts in various areas including traditional MCM as well as new areas of MCM. The division increased operational proficiency with advanced system through training and on-site support for Explosive Ordnance Disposal, for staff personnel from Commander Task Group 68.3 and Commander Task Force, airborne units such, as well as new crews preparing for MCM operations with the MCM MP onboard LCS. The software development efforts in the division allowed the fielding and support of new critical software capability for the Fleet through the release of new updates for MCM and Mining planning capability, through MINenet Tactical and Minefield Planning, and for post mission analysis through Net-Centric Sensor Analysis for Mine Warfare.



*Technician monitoring AQS-24 performance during maintenance event.*



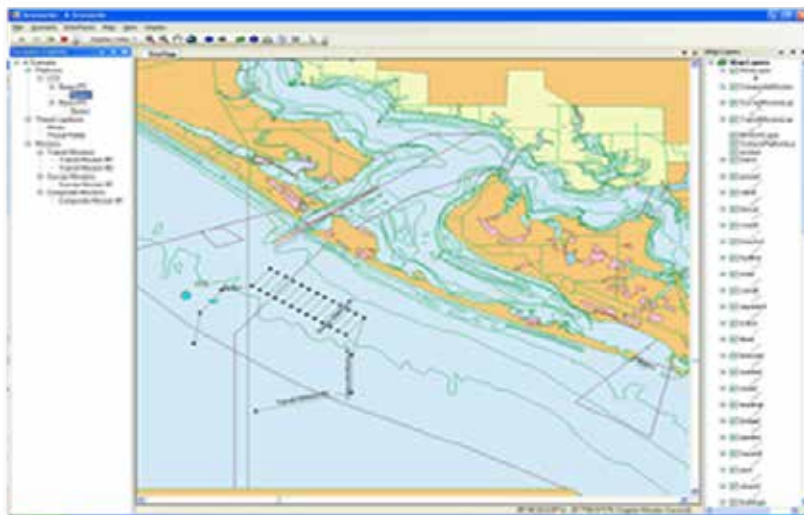


## NSWC PANAMA CITY DIVISION SUPPORTED THE US NAVY FLEET WITH OPERATIONAL ASSETS, INTER-MEDIATE/DEPOT MAINTENANCE, TRAINING, AND SUPPORT ACROSS THE GLOBE.

*Technicians testing and troubleshooting AN/AQS-24 tow body.*



*Mk-105 Minesweeping Sled in hangar for pre-operational checkout.*



**NSWC PCD support of the Fleet has ensured the US Navy has a highly trained warfighting force and assets to operate at will wherever and whenever needed.**

*MIW Integrated Synthetic Trainer (MIST), new staff-level training system.*



# E DEPARTMENT

Expeditionary Warfare and Littoral Operations

## NAVY ENTERPRISE TACTICAL COMMAND AND CONTROL TEAM

During an unexpected, base-wide, internet service outage at Naval Station Rota, Spain, communications services via NCTAMS LANT Det Rota were severely degraded. Fortunately at that time, the NSWC PCD NETC2 team was performing a system upgrade at Explosive Ordnance Disposal Mobile Unit 8 (EODMU8), Detachment Rota.

EODMU8 N6 Master Chief Brandt requested NSWC PCD support to immediately deploy the new upgrade system, Expeditionary Deployable Node 047 (EDN 047). The NSWC PCD Joint & Expeditionary Command & Control, Communications and Network Lead, immediately went into action and coordinated his team to pack up the EDN 047 and relocate the system to the NCTAMS data center operations area. The team had EDN 047 operational on the DOD's Global Information Grid in under 45 minutes, delivering Non-classified Internet Protocol Router (NIPR) and Secret Internet Protocol Router (SIPR) services (web, email, voice, and video conferencing) to the NCTAMS staff. These services are a capability designed and provided 24/7/365 via the Navy Expeditionary Tactical Entry Point located onboard NSWC PCD. This capability was designed to host services and applications for Navy Expeditionary Combat Command units using EDN systems.

**Good news spread quickly and as a result, Cmdr. Yost, flight line commanding officer, requested support from EODMU8. The NETC2 team jumped back into action and setup the second EDN system being delivered to EODMU8 (EDN 024) to provide Yost with NIPR and SIPR services, as well.**

Copasat Storm satellite terminal



**NSWC PCD E DEPARTMENT'S  
NAVY ENTERPRISE TACTICAL  
COMMAND AND CONTROL (NETC2)  
TEAM PROVIDED EMERGENCY  
CONTINUITY OF OPERATIONS  
SUPPORT TO NAVAL COMPUTER  
AND TELECOMMUNICATIONS  
AREA MASTER STATION  
ATLANTIC (NCTAMS LANT)  
DETACHMENT ROTA, SPAIN.**





### SEA ARCHER JOINT CAPABILITY TECHNICAL DEMONSTRATION (JCTD)

As a top priority for the U.S. Chief of Naval Operations, PCD's Sea Archer Joint Capability Technical Demonstration (JCTD) provided the opportunity to demonstrate sub-sea and seabed warfare capabilities. NSW PCD Code E40 Test & Evaluation (T&E) Division was instrumental in helping successfully plan and execute the Sea Archer JCTD conducted in July and August 2024 within the Gulf of Mexico and NSW PCD T&E Ranges. The DOD's Office of Under Secretary of Defense Research and Engineering sponsored this test event with the Naval Undersea Warfare Center Division Newport serving as lead test entity. This test event aimed to operationally demonstrate employment of exercise and live MK 54 MOD 0 Lightweight Torpedoes against targets deployed at sea.

**This achievement underscores the critical support provided by NSW PCD and the collaborative efforts of the participating entities that included NUWC Newport, NUWC Keyport, the Air Test and Evaluation Squadron 1, Naval Special Warfare Group 8, the Naval Munitions Command Detachment Panama City, the 96th Test Wing, Eglin Air Force Base, Fla., and the Applied Research Lab at the University of Texas.**

**THE NSW PCD TEST  
AND EVALUATION  
(T&E) & PROTOTYPE  
FABRICATION  
DIVISION WAS  
INSTRUMENTAL  
IN HELPING  
SUCCESSFULLY  
PLAN AND EXECUTE  
THE SEA ARCHER  
JCTD CONDUCTED  
IN JULY AND AUGUST  
2024 WITHIN THE  
GULF OF MEXICO  
AND NSW PCD  
T&E RANGES.**

## AIR CUSHION VEHICLE C4N

The ACV C4N ISEA/SSA team provided a significant update to the LCAC 100 class fleet at ACU-4 that provided much needed updates to the system hardware and software; allowing the operators finer control during casualty situations, improved cybersecurity posture, and improved situational awareness. Fleet operators and representatives described the new Block 1 release with User Direct Control (UDC) capability as a game changer in preparation for Initial Operational Test and Evaluation events. The C4N Block 1 V5.0.0 baseline with UDC allows the crew to maneuver the craft, when equipment and personnel safety considerations mandate, by controlling the direction and magnitude of the thrust of specific effectors instead of by the automated

Integrated Flight Controller. The C4N Block 1 V5.0.0 baseline also improves network and chassis failover stability, equipment safety, cybersecurity, and fleet required capabilities. The installation team also provided onsite support at ACU-4 during the systems installation and validation testing.

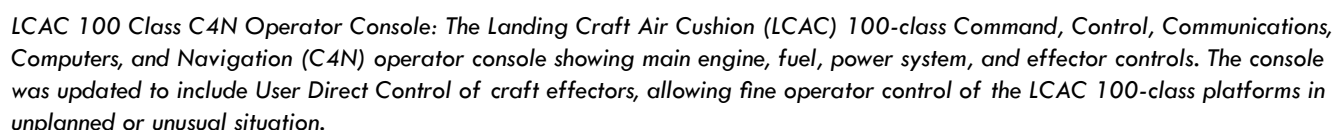
The ISEA/SSA engagement continues through development of the next software release to advance system reliability through incorporation of critical design changes currently in work by the ACV hull mechanical and electrical team. Major modifications currently underway include a redesign of the electrical power generation system and the associated fuel tank expansion.



*LCAC 100 Class C4N BLK1 V5.0.0 Development Team*



The ISEA/SSA team efforts, which modernized the software and C4N control hardware on six LCAC 100 class vessels at ACU-4, provided stable platforms with critically necessary flight controls. These craft control capabilities, along with the craft reliability improvements delivered and in development by the entire ACV ISEA/SSA, are advancing LCAC 100 class readiness for operational testing, and providing the Navy a clear path to achieving initial operating capability for a the new LCAC platform.





# S DEPARTMENT

Subsea & Seabed Warfare  
and Maritime Operations

The NSW PCD Subsea & Seabed Warfare and Maritime Operations (S) Department mission is to connect solutions to gaps that promote rapid delivery of innovative capability through product lines that include: Maritime Special Programs; Diving, Life Support & Protective Equipment; Integrated Product Support Services; Special Operations Systems; Littoral and Undersea Sensors and Payloads; and Adaptive and Asymmetric Systems. As such, S Department is comprised of four divisions: Special Missions Systems, Life Protection, Sustainment & Unattended Vehicles, Littoral & Undersea Surveillance, and Integrated Product Support. Selected department highlights are illustrated below.

## SPECIAL MISSION SYSTEMS DIVISION

The SDV is a free-flooded wet combat submersible capable of clandestinely transporting naval special warfare special operations forces and materials. NSW PCD has served as the ISEA, technical direction agent (TDA), software support agent (SSA), and depot maintenance activity for the MK 8 SDV ever since it was first put into service in 1983. Every 36 months, an SDV is returned to NSW PCD for a routine overhaul (ROH) to be broken down all the way to the bare metal and rebuilt into like-new condition along with installing the latest and greatest engineering change proposals (ECP). The refurbished SDV is then put through a myriad of sea trials by the project dive team to validate that all systems are fully operational and that the SDV is ready to send back to the fleet. After more than 40 years in service, NSW PCD has supported over 97,000 operational dive hours and over 100 depot-level ROHs. Over summer 2024, NSW PCD hit a major milestone by performing the final ROH on a U.S. MK 8 SDV and installing the obsolescence mitigation and architecture cleanup (OMAC) group of ECPs. Going forward, the SDV mission at NSW PCD will continue with the next generation MK 11 SDV.



MK 8 SDV teams





MK 8 SDV

This ROH marks the “changing of the guard” of the longest running model of SDV. The installation of the Obsolescence Mitigation and Architecture Cleanup (OMAC) group of ECP will allow this hull, and the previous three before it, to be utilized by the SDV task units while they transition to the next generation MK 11 SDV. The “new” old boats are now the most advanced yet, allowing for significantly faster mission turnaround and greatly enhanced capability.



**SEAL Delivery Vehicle (SDV) MK8 MOD1D**  
**U.S. Obsolescence Mitigation & Architecture Cleanup (OMAC)**

**AFTER MORE THAN  
40 YEARS IN SERVICE,  
THE ISEA AND DEPOT  
MAINTENANCE  
ACTIVITY PERFORMED  
THE FINAL ROUTINE  
OVERHAUL (ROH) FOR  
A UNITED STATES  
MK 8 SEAL DELIVERY  
VEHICLE (SDV) MARK-  
ING A “CHANGING OF  
THE GUARD” TO THE  
NEXT GENERATION SDV.**

## LIFE PROTECTION, SUSTAINMENT & UNATTENDED VEHICLES DIVISION

### Personal Protective Equipment and Process Improvements from Lessons Learned

NSWC PCD Personal Protective Equipment Branch project managers, acquisition engineering agents and fleet liaisons, working with sponsors like Program Executive Office Unmanned and Small Combatants, Expeditionary Missions, Acquisition Program Manager (APM) for antiterrorism afloat equipage and NAVSEA 05P5 APM's for damage control and chemical biological defense, along with partners like the clothing designers within the Navy Clothing Textile Research Facility have used lessons learned to implement both material and process improvements to better support the fleet. Lessons learned from the major fires review of the LHD-6 (ex-USS Bonhomme Richard) resulted in the learning to action board and additional firefighting capability being provided to the fleet. Astute observations from the Naval Expeditionary Combat Command (NECC) liaison resulted in reduced churn for M53 mask fit test and sizing (FT&S) for explosive ordnance disposal (EOD) personnel. Based on fleet feedback, improvements were identified for the current fielded ballistic vest, the maritime armor system (MAS).

Additional air booster pump assemblies (ABPA), shown in Figure 3, are being built and supplied to fleet units to improve self-contained breathing apparatus filling capabilities. Improved firefighting thermal imaging capability, illustrated in Figure 4, and are being provided by replacing current fielded imagers with one that has better capabilities, reduced weight and better user interface. Periodicity of FT&S for EOD units using the M53 mask, which are shown in Figure 5, has been extended from every deployment to once every five

years. This saves time and effort to conduct the FT&S mission and results in an estimated savings of \$265K per year. The Naval Security Forces Tactical Vest (NTV), seen in Figure 6, will replace the current fielded MAS with two variants, Type I and Type II. Type I will be inherently buoyant and will be worn by sailors working in an environment with increased risk of water entry. Type II will be for law enforcement sailors and will not contain any inherent buoyancy reducing the bulk of the vest. Both variants will have improved plate pocket access for adding additional ballistic protection in the form of ballistic plates. There are also improvements made for donning, doffing and overall comfort while wearing and a size range to accommodate the 5th to 95th percentile of sailors.



Figure 3. Air Booster  
Pump Assembly



Figure 4. Thermal imager



ASTUTE OBSERVATIONS FROM THE NAVAL EXPEDITIONARY COMBAT COMMAND (NECC) LIAISON RESULTED IN REDUCED CHURN FOR M53 MASK FIT TEST AND SIZING (FT&S) FOR EXPLOSIVE ORDNANCE DISPOSAL (EOD) PERSONNEL.



Figure 5. M53A1 mask used by FT&S and EOD personnel



Figure 6. Naval Security Forces Tactical Vest (NTV)

Sailors will be better equipped to fight shipboard fires and better protected from terrorist threats. The deployment of additional assets, design improvements over currently fielded equipment and reduced churn will result in safer environments and cost savings.

## CFD-based Thruster Design for Small UUVs

Increasingly, the focus of modern warfare is shifting to autonomous platforms with an ability to operate in challenging environments including the littorals. For unmanned underwater vehicles (UUVs) to achieve true autonomy in the littorals, they must first be able to maintain control authority in such energetic environments. To help achieve such control authority and augment UUV maneuverability, a novel class of rotating thrusters has been developed and analyzed for various performance and efficiency metrics. Significant improvements were achieved by making parametric adjustments to the design and evaluating their relative influence on performance.

With the help of computational fluid dynamics (CFD) simulations, several geometric modifications were made to carefully select features of the thruster design to characterize their contributions to the overall flow problem. See Figure 7. This simplistic approach of parametric analysis led to significant improvements in thruster efficiency without sacrificing thrust force production by effectively unloading fluid moment from the impeller and exploiting more streamlined flow paths through the internal housing. Basic geometric constraints for vehicle integration are still satisfied, indicating a more mission-ready solution for supplemental control actuation. A more robust approach to internal shape modification, namely the Discrete Adjoint Method for shape optimization, has recently been coupled with the CFD simulations to establish a higher-fidelity pipeline toward “best designs” for UUV thrusters. This S&T research can be applied to future design iterations, enabling optimized geometries to be achieved for implementation on traditional as well as non-traditional platforms whose applications include SSW and MCM.

**Leveraging multiple actuated degrees of freedom is crucial for low-speed, subsurface maneuvers and station keeping, and additional value is associated with the ability to redirect thrust vectors within the vehicle frame. These capabilities are readily enabled by the unique configuration of these thrusters. A patent application for the novel design was submitted, and a presentation to the technical community was well received at the OCEANS 2024 Halifax conference in Nova Scotia, Canada.**

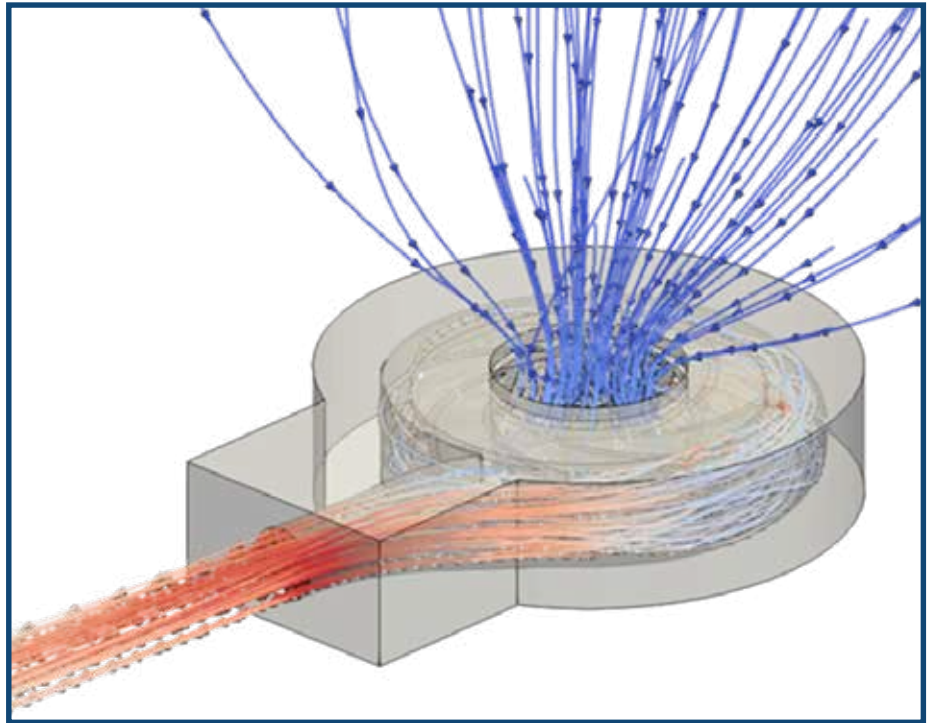


Figure 7. CFD simulation depicting a thruster design

**TO HELP ACHIEVE SUCH CONTROL AUTHORITY AND AUGMENT UUV MANEUVERABILITY, A NOVEL CLASS OF ROTATING THRUSTERS HAS BEEN DEVELOPED AND ANALYZED FOR VARIOUS PERFORMANCE AND EFFICIENCY METRICS.**



## LITTORAL & UNDERSEA SURVEILLANCE DIVISION

### Acoustic Communications Modeling and Simulation

The NSWC PCD Advanced Acoustic & Seabed Warfare Branch's Acoustic Communications Modeling and Simulation (Acomms M&S) project developed an integrated software suite that enables physics based testing of realistic transmit/receive configurations for underwater communication networks. This capability is critical for premission analysis, design, and performance estimation of acoustic communications to ensure a reliable connection in an operational area of interest at the data rates required.

Acoustic communication methods provide long range data and information transfer in radio frequency (RF) denied underwater environments. The implementation of Acomms systems, as visually depicted in Figure 8, involves a sequence of events whereby data is formatted and encoded into a transmit waveform that is subsequently propagated through the ocean environment, then demodulated with noise at the receive component.

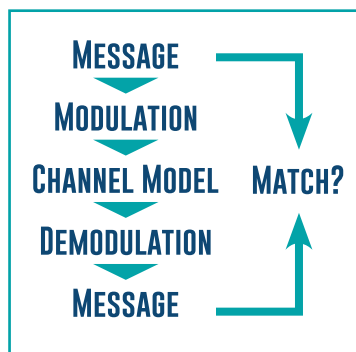


Figure 8. Acomms modeling sequence

Here the channel model represents the physical propagation of acoustic energy in the fluid medium, which often presents challenges to effective data transmission due to:

- Multi-path reflections
- Doppler effects
- Bottom loss/Bathymetric effects
- Unfavorable sound velocity profiles
- Low Signal to Noise ratios

The Acomms M&S team developed the C++ based Modem Emulation Toolset for Estimation of Reception (METEOR) plugin to emulate the modulation/demodulation, and match processes, which was then integrated into the Modular Acoustic

## THE ACOMMS M&S PROJECT DEVELOPED A CRITICAL SOFTWARE.

Simulation Toolset of the Department Of the Navy (MAST ODon) framework to create a full end-to-end, virtual Acomms environment. Figure 9 illustrates the receive process flow and signal accept/reject output architecture.

The integrated METEOR – MASTODON Acomms environment allows generated waveforms to be sent through an artificial ocean channel and then demodulated for receiver analysis. Reception statistics can be calculated to estimate the performance of the selected acoustic modems in a given environment and provides valuable insight when developing subsea communications systems comprised of distributed sensor fields including vehicle communications. Additionally, the development of low probability of detection waveforms can be advanced via realistic simulation.

**Design of effective underwater communication networks requires a thorough understanding of the system components and the complex ocean environments in which they are deployed. Acomms M&S can thus provide for rapid development of the layered networks required by future inter-operable concept of operations. Evaluating Acomms system performance without the need to deploy extensive equipment saves resources, reduces the need to place warfighters in harm's way, and enhances effectiveness in denied environments.**

**Acomm M&S fosters the rapid development of layered networks required by future operations and will enable support of SECDEF priorities.**

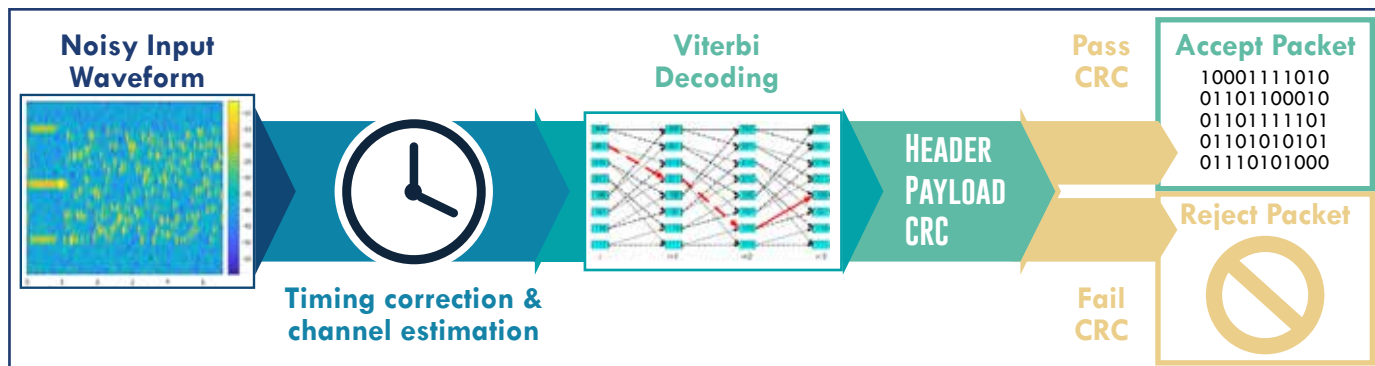


Figure 9. Receive process flow and signal Accept/Reject output architecture

## INTEGRATED PRODUCT SUPPORT DIVISION

### Training Facilities in Guam

NSWC PCD Marine Corps Training Systems Branch's contributions to the training facilities in Guam included:

- Leading team in establishment of Marine Corps Base Camp Blaz, Guam, for ground training and sustainment requirements in support of Force Design 2030.
- P-715 Live Fire Training Range Complex (four ranges) – Led the procurement and installation of 50 manual carriages, 80 stationary infantry targets (SITs), 17 mobile infantry targets (MITs). Oversaw the government acceptance and new equipment training conducted for targets and range control system installed by August 2024. The ranges are ready for training.
- J-755 Urban Training Complex (six ranges) – Consists of 130 military on urban terrain structures, a live fire shoot-house, and two after action review buildings. Conducted government acceptance of atmospherics (set dressings) installed by June 2024; ongoing installation of tactical video capture system estimated to be completed FY25 Q2.
- P-735 Multi-Purpose Machinegun Range ongoing construction estimated to be completed by January 2025 with target procurement and installation to follow. Participated in weekly Integrated Product Teams design review boards and in-progress site surveys. When completed, the range will consist of 152 SITs, 10 MITs, 96 double SITs, and 58 stationary armored targets.

**NSWC PCD MARITIME CORPS TRAINING SYSTEMS BRANCH (CODE S46) WAS INSTRUMENTAL IN THE ACQUISITION, CONSTRUCTION AND BRINGING ONLINE MULTIPLE RANGES AND TRAINING FACILITIES IN GUAM (ACQUISITIONS PROJECT MANAGER AND LOGISTICIAN AND THE SUSTAINMENT PROJECT MANAGER AND LOGISTICIAN).**



Figure 10. Training facilities

The Guam facilities (as depicted in Figure 10) provide ground training for warfighters in preparation for present and futures threats. These training complexes provide both required (live fire and Egress training) and scenario based (urban combat and indoor shoot house) training with immediate video after actions provided. These projects are joint funded by the U.S. DOD and the Japanese Ministry of Defense. In addition to this being a joint country effort, it is a joint Navy effort consisting of U.S. Marine Corps Program Manager Training Systems, NSWC PCD, NSWC Corona Division and Navy Facilities Engineering Systems Command. Upon completion of the training facilities and lodging areas, the U.S. will move thousands of Marines out of Okinawa, Japan and into Camp Blaz, Guam.





# CODE 01

Comptroller

## SYSTEMS

- Tableau Data Analytics
  - Several key dashboards were developed to enhance efficiency and automation:
    - Capital Investment Program (CIP) Dashboard
    - Command Awards Dashboard
    - Funding/Carryover Dashboard, which further improve financial oversight and management
    - Dive Locker Service Cost Center Dashboard
    - Outgoing Funding Dashboard - providing detailed insights into service costs and outgoing funds
- Developing and implementing tools and updates
  - Updating the Funding Allocated to Locally Controlled Networks (FALCN) Funds Management application for the G-Invoicing rollout
  - Implemented a new Statements of Acceptability and Certifications digital approval process within FALCN
  - Added a module for outgoing funding documents
- Collaborated with the Enterprise Data Warehouse (EDW) Team
  - Rolling out the DD577 tool for Wide Area Workflow (WAWF) approvers
  - The new Command Property Pass tool
  - The Delegation of Authority tool
- Command Reorganization
  - Undertook significant actions to ensure alignment with the new structure
  - Updated several Tableau dashboard visualizations to reflect the changes, enhancing data clarity and accessibility
  - Made improvements to the FALCN application, ensuring it met the new organizational requirements
  - Updated several structured query language queries within the EDW to align with the restructured command, ensuring seamless data integration and reporting

## METRICS

### TRAVEL

4,535 Authorizations  
 4,534 Vouchers  
 over \$11M in costs



- In FY 2024, our travel branch migrated all Government Travel Charge Card Statement of Understanding (SOU) from manual documents to an online tracker tool. The tool automatically creates the SOU and sends email updates when training is past due. In addition, the command went through a reorganization which required a streamlining and revamp of the Defense Travel System routing lists.
- Through the reorganization, the travel staff was able to reduce 163 redundant routing lists and update 1205 traveler profiles. This simplifies the process for travelers and greatly assists in inspector general audit preparation.

### PAYROLL

- In FY 2024, our payroll branch released an updated NSWC PCD Civilian Pay, Leave and Labor instruction that provides the command staff with updates on voting, Paid Parental Leave, and work schedules. It is the first update of this policy since 2017.
- In addition, by collaborating with our Systems Branch, designed, developed, and released the department's first of many to come robotic process automations (RPA) bots that process time and attendance reports, reducing labor hours and overhead costs. The RPA Bot has been presented as an innovation to the DoN and NAVSEA community during the Financial Management Data & Digital Transformation Summit this year.

### ANNUAL

- Processed 2,400 incoming funding documents and over \$550M outgoing funding documents.
- Final billed 520 sales orders returning nearly \$4M and successfully performed reconciliations and any needed corrections on the lapsing orders before the funds expired on 100% of FY24 lapsing sales orders.
- Dormant records cleared: 3,243 (unliquidated obligations) totaling just under \$70M.

## FIAR

The Financial Improvement and Audit Remediation (FIAR) initiative is crucial for enhancing the accuracy, reliability, and transparency of financial data within the NSWC PCD. Klynveld Peat Marwick Goerdeler's consulting audit remediation efforts are essential in addressing identified deficiencies and ensuring compliance with regulatory standards. Achieving a clean audit opinion in 2027 as a result of these diligent remediation activities is vital for maintaining public trust as financial stewards and reinforcing the credibility of financial reports. Continued remediation efforts are focused on improving the Military Standard Requisitioning and Issue Procedures process and evaluating Capital Assets to further enhance financial management and accountability.

# BUDGET

In FY24, the Budget Division continued to deliver exceptional funding management and corporate budgeting services to the command. The Funds Management Office (FMO) processed over \$451 million in reimbursable funding, a 9% increase from FY23. FMO also proactively developed and implemented new processes to prepare the command for the FY25 integration into the U.S. Department of the Treasury's G-Invoicing system.

The Corporate Budget Office's projections maintained their leading position among NAVSEA Warfare Centers. Their projections and phasing plan were remarkably accurate, ending within 0.36% of the command's 2+ million direct labor hours. Furthermore, the Corporate Budget Office provided guidance for setting reimbursable and carryover targets, and then meticulously tracked and managed carryover, utilizing 99.9% of the command's over \$205 million carryover target. Finally, the Corporate Budget Office provided oversight and management of the command's Capital Investment Program's (CIP) over \$28 million in active authority, and helped ensure FY24 CIP project execution of 91.7%, exceeding headquarters' targets.

## REVENUE IMPACT

➔ **2K+**  
**INCOMING  
FUNDING  
DOCUMENTS**



**400+**  
**MILLION  
TOTAL  
REVENUE**

## ECONOMIC IMPACT

Contracts  
Marine Corps  
Airforce  
DOD Other  
Army  
Gov't Other  
Private Party



**600+**  
**INCOMING**

**FUNDS  
IN MILLIONS**

**500+**  
**OUTGOING**



Contracts  
Material  
Civillian Payroll  
& Labor  
Military Payroll  
Property  
Maintenance/Repair  
Operational  
Expenditures



# ACCOUNTING

## A WORKING CAPITAL FUND ACTIVITY

### DAR

The Dormant Account Review (DAR) and Navy Budget Execution Validation (BEV) initiatives are designed to accelerate the return of unexpended canceling, expired, and expiring funds to sponsors for reallocation. Navy BEV, mandated by the Office of the Under Secretary of Defense, Comptroller (OUSD(C)), serves as a critical quality review of dormant accounts, reinforcing the Department of Defense's (DoD) commitment to responsible financial stewardship and the effective management of taxpayer dollars. Cleaning up dormant accounts is essential for securing a favorable audit opinion in 2026. These inactive accounts can obscure financial inaccuracies, heighten the risk of fraud and non-compliance, and expose weaknesses in internal controls—each of which undermines the reliability of financial statements and overall financial management. By addressing these concerns, DAR strengthens transparency, efficiency, and accountability in financial reporting. This effort showcases a commitment to responsible resource management, fosters stakeholder trust, and enhances the credibility of audit outcomes. DAR successfully cleared 6,994 records, reclaiming over \$92M in funds.

### CORPORATE ACCOUNTING

In 2024, the Corporate Accounting team capitalized two CIP projects with total acquisition value of almost \$2M and resolved several tie point variances including an over \$7M variance in tie point 19. Corporate Accounting also performed period-end close, and year-end close functions. In 2024, the Contract Vendor Pay team oversaw the processing and certification of 2,320 invoices, totaling almost \$38M.

### MANAGERIAL ACCOUNTING

In preparation for the FY27 financial statement audit, Managerial Accounting quickly fulfilled numerous audit sample requests, data calls, and internal audit inquiries. Furthermore, we collaborated with the Systems team to begin developing automated processes aimed at improving processing efficiency, reducing errors, and streamlining future audit preparation.

- Unmatched transactions: 5,128 total \$82.6M
- Accruals: 193 total \$12.4M
- Non labor cost transfer: 70 total \$2.5M
- Shipping: reconciled 2,134 shipments total \$1.1M



## WE NAVIGATE FUNDS TO THE WARFIGHTER!

As a team of certified Financial Managers we provide excellent service with honesty, integrity, and respect while ensuring accountability for exceptional stewardship of taxpayers' dollars.



# CODE 02

Contracts

CONTRACT DIVISION	# ACTIONS	\$ OBLIGATED
022	304	\$ 65,103,925.42
023	472	\$ 138,834,207.78
024	445	\$ 21,026,713.09
025	60	\$ 11,490,908.35
02B	6	\$ 719,452.00
Grand Total	1284	\$ 237,175,206.64

OVER \$237M  
IN OBLIGATIONS

- Nine new hires including three Naval Acquisition Development Program (NADP) hires
- Simplified Acquisition Procedures (SAP) Awarded 445 actions for \$21M while implementing the new procurement system Electronic Procurement System (ePS)
- Code 02 Employees received the NAVSEA Excellence Awards under the following categories: Facilities Engineering and Management and Small Business
- Supported the NAVSEA Seaport Rolling admissions – reviewed over 165 proposals
- Agency Program Coordinator (APC) Office for oversight of the Government Purchase Card program received a rating of highly satisfactory on its Oct. 2024 Procurement Performance Management Assessment Program
- Contracts received a rating of satisfactory on its March 2024 Procurement Surveillance Review
- Implemented ePS in the SAP Division



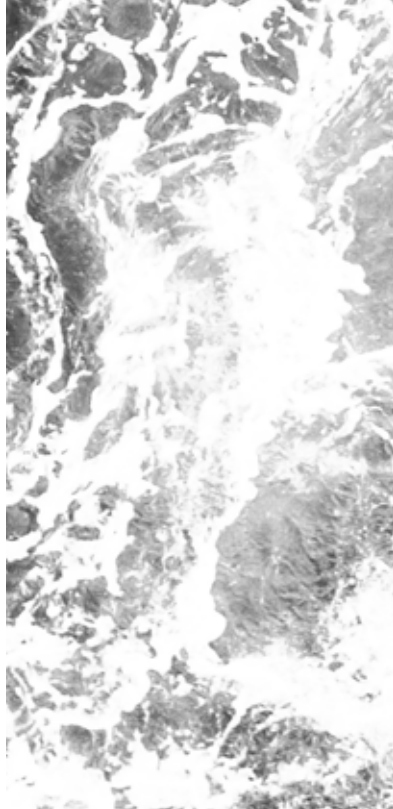




## CONTRACT AWARDS



- 1** Bathymetric System \$48M Indefinite Delivery Indefinite Quantity (IDIQ) with Kongsberg Underwater Technologies, LLC
- 2** Mk16 Underwater Breathing Apparatus Testing Chamber over \$4M IDIQ with Chase Hanna
- 3** MCM USV over \$70M IDIQ with Textron
- 4** Amphibious Assault Direction System and Blue Force Tracker Infrastructure Installation Support IDIQ for over \$3.9M with Chugach Dynamics Solutions, Inc.
- 5** Capital Improvement Project (CIP) HYDRO-SPACE LAB NEMO Thermal Manikin System for over \$561K with Thermetrics, LLC
- 6** CIP Power Supply Batteries Storage NASA SEWP (Solutions for Enterprise-Wide Procurement) for over \$578K with Victory Global Solutions
- 7** Landing Craft Air Cushion (LCAC) Electronic Chart Precise Integrated Navigation System Software & Training \$7M with Canadian Commercial Corporation/OSI Maritime Systems
- 8** Marine Data Collection Program \$7.1M IDIQ to Raytheon Corporation
- 9** MCM Targets Fabrication over \$6.6M with Robins Metal
- 10** Multiple Award Supply Contract \$48M IDIQ for five years with five offerors
- 11** Raider Outboard Motors IDIQ over \$4.8M with Raider Outboards, Inc.
- 12** Biomaterial Protein and Fiber Development Follow On - over \$4.M with Utah State University
- 13** Seaport – MCM Targets & Mine Improvements – over \$14M to Applied Technical Systems, Inc.
- 14** Seaport Damage Control and Firefighting Shipboard installations for the replacement of Self-Contained Breathing Apparatus and lockers and the replacement of Emergency Escape Breathing Devices over \$15.8M with Delphinus Engineering, Inc.
- 15** Seaport LCAC Hull Mechanical and Electrical over \$21.4M with SAIC
- 16** Seaport Cybersecurity Support for Adaptive Persistent Awareness System – over \$18.5M with ISPA, Technology, LLC
- 17** Seaport AMCM Cyber Information Assurance Information Technology over \$5.6M Dynamic Solutions Technology, LLC
- 18** The Ocean Simulation Facility (OSF) uses a significant amount helium in the air while the divers are at depth. The price of helium has nearly doubled since 2020. With the help of their industry partners, the NEDU engineering department designed a custom helium reclamation system which will allow them to reclaim and reuse helium from the OSF. The expected savings per annum is ~\$300,000 after cost recovery
- 19** Code 02 provided support and assistance in procuring ~\$1.2M in parts and services through Chase Defense Partners



## CODE 10

Corporate Operations Department

**CODE 1071 SUCCESSFULLY LAUNCHED THE CUSTOMER ACQUISITION GROUP (CAG) TO STREAMLINE PROCUREMENT PROCESSES, FREEING UP ENGINEERS AND SCIENTISTS FROM TIME-CONSUMING TASKS BY CENTRALIZING AND MANAGING THEM THROUGH A DEDICATED TEAM.**

### ESTABLISHED CUSTOMER ACQUISITION GROUP

The NSW PCD Purchasing Branch, Code 1071, committed to improving efficiency and customer support, created the CAG as a one-stop shop for procurement. Recognizing inefficiencies caused by rework and misinformation, the team developed a streamlined process, starting with the Grainger Fourth Party Logistics 4PL purchasing vehicle.

The CAG process utilizes a tool to maximize information from technical codes, with the CAG team handling unique material masters requests, requirements form creation, and purchase request submissions. Implementation began with a phased approach, starting with NSW PCD's business codes then gradually incorporating its departments, supported by comprehensive training.

This initiative significantly reduced processing times, minimized errors, and improved product delivery. By alleviating logjams and freeing up technical staff, the CAG fosters stronger customer relationships and demonstrates a commitment to continuous excellence and improvement through the Get Real, Get Better philosophy.

**By taking over routine procurement tasks, the CAG returns 25-30% of time back to engineers and scientists, enabling them to focus on higher value work.**



Personnel from NSW PCD Property Management Division gather for a group photo. Pictured from left to right (front row) Ashlee Villines, Deanna Pedersen, Megan Fernandez (middle row) Diamond Gibson, Debra Buchanan Mychea Williams, Eric Richards, Richard Greve, Austin Boozer, Kinsley Gager, Durand Yangson, Jonathan Chapman, Dustin Reed (back row) Breana Steele, Shaun Meehan, Amanda Farris, Kaisey Balsters, Kim Wiedemann, Leonard Bruce, Tasha Johnson and Billy Gibson.



## HUMAN CAPITAL STRATEGIC ANALYSIS TEAM

The Human Capital Strategic Analysis Team, through their collaborative efforts on the Technical and Business Capabilities Health Assessment (T/BCHA), has significantly strengthened NSWC PCD's workforce planning and decision-making. By identifying knowledge gaps and future needs, the team enabled targeted recruitment, comprehensive workforce development and data-driven insights for leadership. This collaborative achievement facilitated a shift towards an increased data-informed culture, improving alignment between workforce capabilities and the command's strategic goals.

**The Team's collaborative efforts have significantly enhanced NSWC PCD's knowledge base and expertise, leading to better decision-making and a stronger, more capable workforce to ensure consistent excellence across the organization.**

## DISASTER RECOVERY

The Infrastructure Division and Contracts Department received recognition in 2024 for their groundbreaking disaster recovery efforts following the devastation caused by Hurricane Michael in 2018. The teams were commended for their exemplary implementation of the 2017 National Defense Authority Act Section 233, resulting in the award of their first-ever construction contract within a remarkable timeframe of 92 days. This \$4.5 million contract, granted to a local 8(a) certified company, empowered NSWC PCD to independently manage smaller-scale construction projects. The total for all Section 233 Project awarded in FY24 was over \$2.1M. This streamlined approach proved instrumental in rebuilding efforts, accelerating project execution, and reconfiguring working and laboratory spaces to meet critical NAVSEA mission requirements.

**By successfully navigating this new authority, NSWC PCD expedited its own recovery and demonstrated a model for efficient resource utilization within the Department of Defense. Their efforts exemplified the spirit of the 2017 law, highlighting its potential to improve disaster response and modernization efforts across the Navy.**

**THE TEAM'S COLLABORATIVE WORK ON T/BCHA HAS SIGNIFICANTLY ENHANCED NSWC PCD'S WORKFORCE PLANNING BY IDENTIFYING KEY KNOWLEDGE GAPS AND FUTURE NEEDS, LEADING TO TARGETED RECRUITMENT AND COMPREHENSIVE DEVELOPMENT STRATEGIES.**

## TWO TEAMS RECOGNIZED FOR INNOVATIVE APPROACH TO DISASTER RECOVERY



*Members from NSWC PCD Infrastructure Division conduct quality and safety inspections during a stairwell renovation project.*

# OUR PEOPLE

NSWC PCD Interns



Science & Engineering  
Apprenticeship  
Program Interns



NSWC PCD Interns







Code 10 Employee Appreciation



NAVSEA Spring Engineering Support Working Group



Bay County Chamber of Commerce  
Military Affairs Committee MAC



# 2024 ANNUAL *Awards*

NSWC PANAMA CITY DIVISION

## *Individual Awards*



*Whitney Gillman*

BUSINESS EXCELLENCE



*Scott Burleson*

CAREER ACHIEVEMENT



*Aaron Cole*

DR. DAVID P. SKINNER OUTSTANDING  
SCIENCE & ENGINEERING



*Bobby Burt*

EXEMPLARY LEADERSHIP



*John Horton*

HALL OF FAME AWARD



*Haydlee Slutzky*

NEW EMPLOYEE EXCEPTIONAL ACHIEVEMENT (TIE)



*Cody Smith*



*Aisha Houser*

OUTSTANDING  
PROGRAM SUCCESS



*Brandy Lewis*

OUTSTANDING  
ORGANIZATIONAL SUPPORT



*Ryan Close*

TECHNICAL EXCELLENCE (TIE)



*Evan Sarantos*



## Team Awards

### COLLABORATION EXCELLENCE

#### INTERNATIONAL RESEARCH & COLLABORATIONS TEAM



Left to right:  
Jonathan King,  
CAPT Paul Stence, Jr.,  
Jesse Ardonne, Sonja Smith,  
Dr. Nathaniel Fuller,  
Dr. Nicholas Palermo,  
Peter Romaine, Tyler Moak,  
David Malphurs, Dr. Peter Adair

*Not Pictured:  
Charles Bernstein and  
Dr. Daniel Sternlicht*

### EXCELLENCE IN BUSINESS INNOVATION

#### ROBOTIC PROCESS AUTOMATION BOT TEAM



Left to right:  
Cory Bruckschen,  
Tristan Dickinson,  
Jenica Lolley,  
Rachel Thompson

### OUTSTANDING ORGANIZATIONAL SUPPORT

#### LABOR COST TRANSFER SUPPORT TEAM



Left to right:  
Jessica Gutierrez,  
Cory Bruckschen

## OUTSTANDING FLEET SUPPORT

### LION HUNTER TEAM



Left to right:  
CAPT Paul Stence, Jr., Hank Williams,  
Ivan Hvojnik, Adam Vickers, Robbie  
Freed, Kevin Fowler, Thomas  
Fanning, Marcus Rich, Alex Dence,  
Glenn Sulzberger, Fernando  
Renneke, Dave Auvil, Jason  
Mooneyham, Angela Cook,  
Haley Bickhaus, Terry Foster,  
Dana Isaacs, Kevin Powell,  
Maggie Tajchman, Dr. Peter Adair

*Not Pictured:*  
*Brian Coppola, Thomas*  
*Creswell, Ryan Crytzer,*  
*Sondra Fox, David Walls*

## OUTSTANDING INNOVATION

### MINE COUNTERMEASURES C5 CYBERSECURITY TEAM



Left to right:  
Brant Bickhaus,  
Kate Maglio

## EXCEPTIONAL TECHNICAL SUPPORT

### LITTORAL COMBAT SHIP MINE COUNTERMEASURES MISSION PACKAGE PRODUCT SUPPORT TEAM



Left to right:  
CAPT Paul Stence, Jr., Jake Wobser,  
Corrie Gann, Lindsay Portas, Linda  
Schroeder, Jeremy Merry, Misty Figlinski,  
Kent Engelhart, Steve Rutledge, Molly  
Allen, Ken Condron, Diana Abbee,  
James Burks II, Anita McConniel,  
Michael Conley, Brian Delmar, Peter  
Amador, Emily Dodson, Gregory Fossum,  
Natalie Cook, Laura Gullett, Lindsey  
DuPriest, Debby Hill, Andrew Wright,  
Honor Six, Brandy Lewis, Dr. Peter Adair

*Not Pictured:*  
*James Bennett, Tina Buddi,*  
*Candra Burks, Jeffrey Deshazer,*  
*Tiffany Finch, Jody Forcha,*  
*Terri Kesler-Aldridge, Courtney*  
*Swearingin, Terry Walters*



## OUTSTANDING TEAM ACHIEVEMENT

### ELECTRONIC PROCUREMENT SYSTEMS IMPLEMENTATION TEAM



Left to right:  
Jessica Johnson, Kaitlin  
Summerville, Trivia Massaline,  
Tommy Chatman, Jessica Clark,  
Tyler Bounds, Jamell Kilgore,  
Andrew Johns, Nicole Stevens,  
Jason Zimmerman

Not Pictured:  
Rob Griffith

## Patents

### DIVING HELMET APPARATUS

*Edward Downs Jr.*

### TRACK DRIVE WITH SPRING-BIASED FEET

*Dr. Tye Langston, Dane Maglich*

### APPARATUS FOR RELEASING MAGNETIC CRAWLER FROM FERROMAGNETIC OPERATING SURFACE

*Dr. Tye Langston, Dane Maglich, David Swedberg*

## NEW INDUCTEES TO THE INVENTORS SOCIETY



*David Swedberg*

*Dane Maglich*  
Not Pictured

