THE PEOPLE AND TECHNOLOGY THAT REMAIN AMERICA’S MOST PERSISTENT AND VERSATILE INSTRUMENT OF MILITARY STRENGTH

OUR NAVAL FORCE

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A NOTE FROM THE EDITOR AND STAFF

This month, we focus on the Navy’s trailblazing people and technologies. As we take a look at how our naval force continues to train, fight and equip the world’s toughest Sailor, we remember Navy history and focus on the contributions for the future of the fleet.

Our focus this month is on the people and technology that make the defense of this nation possible. We look at our advantage at sea and the capabilities of Sailors deployed around the world.

It is our mission to reach Sailors, so please forward this email, print out this issue, scan the QR codes, and follow our social media channels for the latest information for Sailors, by Sailors.
Along with a specific date of transition, the emails provide personnel time to familiarize themselves with required actions well ahead of their given enablement date.

Beginning June 1, the Navy workforce will gain access to a single Microsoft Office 365 (M365) collaboration and productivity environment known as Flank Speed that will improve security and, over time, deliver additional tools to support a more productive Navy workforce.

The first group to get access to Flank Speed will be the 266,000 personnel who are either active Commercial Virtual Remote (CVR) users or part of the subset of Navy Marine Corps Internet (NMCI) users who have already been transitioned to O365 (NMCI O365). Approximately 472,000 users are targeted to get access to Flank Speed by the end of FY21.

On June 15, CVR Teams goes away for all Department of Defense users, including the Navy. By October 1, NMCI O365 will also cease to exist. Forever. No exceptions.

While those commercially-operated environments provided a crucial means of communication during pandemic-constricted work situations, the retirement of NMCI O365 and CVR as outlined in NAVADMIN 074/21, clears the way for an improved, Navy-operated Flank Speed cloud.

Named after the extreme engine order given to ship handlers to evade danger or outpace threats, Flank Speed will be an evolving information technology initiative and the epicenter of Navy unclassified systems for years to come.

To initiate this evolution, more than 260,000 current users of CVR and NMCI O365 will receive a series of detailed emails with instructions explaining how to prepare for and gain access to Flank Speed.
DON ANNOUNCES DIVERSITY, EQUALITY, AND INCLUSION PLANNING ACTIONS

Acting Secretary of the Navy Thomas Harker released a memo announcing specific actions towards the Department’s diversity, equity, and inclusion efforts.

The effort asks the Chief Diversity Officer of the Navy, Assistant Secretary of the Navy (Manpower and Reserve Affairs) (ASN (M&RA)), Catherine Kessmeier, to lead a Strategic Planning Team and develop an action plan to promote DEI in Department-wide policies, programs and operations. Harker’s memo formalizes guidance and establishes a framework to develop a strategic plan, identify actionable measures to integrate ongoing DEI efforts and recommend new initiatives.

“Equal opportunity is the bedrock of our democracy and diversity is one of our greatest strengths; both are critical to the readiness of our Navy and Marine Corps team and, ultimately, to our mission success,” said Harker.

“Aligned with these guiding principles, it is the policy of the Department of the Navy (DON) to continue making transformative and meaningful steps that promote diversity, equity, and inclusion (DEI) in our policies, programs, and operations across the enterprise. This review will examine both Navy and Marine Corps policies and build on existing efforts within both services.”

As the Chief Diversity Officer for the Department, Acting ASN (M&RA) Kessmeier will:

- Lead a strategic planning team, comprised of officer, enlisted and civilian representatives from the Navy, Marine Corps and Secretariat, to establish a framework to provide direction in developing a strategic plan, identifying actionable measures that integrate ongoing DEI efforts, and recommending new initiatives.

Acting ASN (M&RA) Kessmeier will:

- Oversee and direct:
  - A 60-day review of contracting to identify improvements needed to promote supplier diversity and ensure proper implementation of equal opportunity and diversity policies in contracts
  - A 60-day review of policies and conventions of naming Navy and Marine Corps assets to identify measures to improve diverse representation
  - A 90-day review of precepts for selection and assignment boards to remove potential barriers to diversity
  - A 90-day review of diversity within the Senior Executive Service to improve the pace of diversity and the strength of the applicant pool, while remaining cognizant of the merit system principles
  - A 90-day review of Navy and Marine Corps grooming policies to inform potential changes to policy
  - A 90-day review to examine an appropriate authoritative data environment for DEI

As review periods for the six initial actions in the memo are completed, the DON will release findings and actions it intends to take to remove existing barriers and advance diversity, equity and inclusion throughout the Department.

“Equal opportunity is the fundamental promise of the United States. The Department of the Navy is committed to rooting out inequities that have sometimes kept that promise out of reach for underserved and underrepresented communities,” stated Kessmeier.

“We recognize the need to understand the barriers that face our workforce, and we need to ensure our policies and processes are constructed to support diversity, equity, and inclusion for every officer, Sailor, Marine and civilian. Advancing equity requires a systematic approach and the Strategic Planning Team will work to address inequities in DON policies and programs that serve as barriers to equal opportunity.” Read the full memo here.

For more information and resources visit:
https://portal.seacnav.navy.mil/orgs/OPNAV/N2N6/DDCION/FlankSpeed
NAVY RESERVE TO TEST NEW EVALUATION AND FITNESS REPORT SYSTEM

By Lt. Cmdr. Adam Demeter, Commander Navy Reserve Forces Command

Several Navy Reserve commands, units, and support centers across the Reserve force have been selected to participate in a test pilot program for eNavFit, a modern solution for all Navy Evaluation (EVAL) and Fitness Report (FITREP) processing.

eNavFit is scheduled to replace NAVFIT98A by December 2021. The system will minimize the need for the hard copy routing process, reduce unit-level administrative hurdles, and automate submissions to the Performance Evaluations Division (PERS-32) for entry into Sailor Official Military Personnel File (OMPF) records.

“This upgrade is what many Reserve Sailors and administration professionals have been waiting for,” said Rear Adm. John Schonegg, Reserve Forces Command (CNRFC). “eNavFit aligns with the Navy’s wholesale approach to identify, design, and implement modern information technologies to minimize the burden of everyday administrative processes. We’re excited to test this new system on behalf of Navy Personnel Command and make life easier for all Sailors, active and Reserve.”

While eNavFit will operate through an online, web-based environment for shore commands, it will also account for the limited connectivity on surface ships, submarines, and other sea and operational commands. Both online and offline capabilities will allow local administrators to create, edit, delete, route, and validate performance appraisals, as well as allow reporting seniors to group and process summary group reports.

Use of the GTCC is now authorized for the following travel expenses: temporary lodging expense or Temporary Lodging Allowance at the old or new permanent duty station, fuel for a Privately Owned Vehicle, when POV is the authorized mode of transportation, rental car and fuel, when a rental car is authorized on orders, lodging and meals enroute, Dislocation Allowance related expenses normally used to establish a household, automatic teller machine (ATM) withdrawals.

A current list of symptoms from the CDC can be found at https://go.usa.gov/x6qHC.
The road for this sailor has been a journey of commitment and discipline. Interior Communications Electrician 2nd Class Alexius Russell knew that she wanted to be a doctor and when she discovered the Enlisted to Medical Preparatory Programs (EMDP2) she knew that’s where she was meant to be.

It didn’t come easy and it took a lot of discipline and hard work to get to where she is today. She did not always receive the support that she needed and even though she had a couple of roadblocks she is now on the road to become a doctor in the United States Navy.

EMDP2 is a two-year, full-time education program for enlisted members of the military. It prepares students to get into medical school by teaching them pre-med courses and preparing them for the Medical College Admission Test.

Russell did not get in the first time that she applied and it was devastating. It took her some time to collect her thoughts and evaluate what she needed. She reached out to the Director of EMDP2, Dr. Althea Green, and Program Administrative Officer Gustavo Ruiz, to help look at her packet.

“She has an amazing life story,” said Dr. Green. “I don’t know if she mentioned this but she applied twice. She didn’t get selected the first year. She contacted us so we can talk with her about how she might be able to improve her application. She reapplied, she was persistent...She is graduating this year, and she was one of the earliest admissions to our school of medicine this year. This is a young person that was her own as a teenager, was homeless for a while and enlisted in the Navy, and here she is.”

At 18 years old, Russell had to leave an abusive household. She hadn’t yet joined the Navy, but was in college getting her degree. She didn’t have anywhere to go and sometimes would sleep in stalls or she would couch surf. She barely had enough money to pay for her bus fare to go to school.

“When I was recruiting I tried to put homeless people in the Navy because I understood from their perspective what they were feeling; because, all it takes one wrong turn and everything is gone, you know?,” said Russell.

“You could have the best job, the best schooling and then something happens and that is it, and people just judge you and make all these criticisms when they don’t even know your backstory.”

Russell advises to always believe in yourself. If you can’t convince yourself that you can do this, then there is no way you can convince the members of the board that this is what you want.

“I always had self motivation but it was a constant, ‘you can do this’, ‘this is not a denial’, ‘it is not the end all be all,’ said Russell. ‘This is just a late acceptance’...don’t let anyone stop you.”

No matter what happens, whatever road you take, always look forward and never be afraid to ask for help. Russell says that in order to push through you have to envision yourself being there, surround yourself with positive people and take every opportunity you can.

“Just look forward and keep a positive outlook.”

Russell commissioned on May 20, 2021 and became Ensign Russell. She was surrounded by loved ones and is ready for the next step. Russell commissioned on May 20, 2021 and became Ensign Russell. She was surrounded by loved ones and is ready for the next step.

She will be attending medical school at the Uniformed Services University in Bethesda, MD after going through Officer Candidate School in Newport, Rhode Island.
The aircraft is specifically designed to become part of a carrier strike group because it will refuel every carrier-based aircraft and can use the catapult and arresting gear systems. “We’ve always had that vision of someday in the Navy we’re going to have multiple air vehicles that are aboard aircraft carriers that can conduct autonomous operations,” said Capt. Chad “Gummer” Reed, program manager for the Unmanned Carrier Aviation program office in Patuxent River, Maryland. “The MQ-25 is sized with its support equipment and fuel to meet the requirement of its primary and secondary capabilities.”

Boeing will deliver the super hornet-sized aircraft ready to handle its primary refueling mission, and provide intelligence, surveillance and reconnaissance (ISR) capabilities. The plan is for the Stingray to integrate with the CVW as part of the Airborne Command & Control and Logistics Wing (ACCLW) upon completion of testing. The Navy will stand up two CONUS-based MQ-25A squadrons, VUQ-11 on the West Coast and VUQ-12 on the East Coast, and deploy detachments of five aircraft aboard the carriers to supplement the various squadrons. The Navy plans to eventually support nine operational detachments.

“I think MQ-25 has great promise for us...our initial focus is to introduce this platform and get it introduced into the air wing,” said Kilby during a hearing of the House Armed Services Committee. “Let’s figure out how to handle it in the air wing, let’s move to ISR, maybe electronic attack, strike, and then other things as complexity grows across that mission set.”

NAVAIR continues to develop the technology and engineering behind the aircraft to reach that expectation. They are expanding on this idea, particularly around the cutting-edge operational concept of manned-unmanned teaming. “That manned-unmanned teaming is the direction that we see the Navy going and we’re focused on that future now,” said Reed. “You can have a pilot in an F/A-18 that is telling MQ-25 what they need it to do. ‘I can see that I’ve got weather ahead of us and it’s not good to be tanking in a thunderstorm so let’s turn in another direction.’ That’s the future that we’re bringing forward now.”

The Navy intends to pioneer manned-unmanned teaming with the Stingray, meaning someday a Super Hornet, Growler, or a secondary ship hundreds of miles away might assume control of the unmanned aircraft. As the first carrier-based unmanned aircraft, the Stingray will help the Navy build the foundation for integration of unmanned systems into the complex carrier environment, generating the knowledge and CONOPS for efficiently and effectively operating an unmanned system on the flight deck, in close proximity to manned aircraft, and being on the leading edge of future concepts such as manned-unmanned teaming.

“The MQ-25 is a game-changer. It is not your typical flying gas station,” Reed said at an event earlier this year. “It’s not the first time we’ve had unmanned systems. We have many of them flying in the Navy today but this is the first unmanned system deployed aboard carriers.”

“WE’VE ALWAYS HAD THAT VISION OF SOMEDAY IN THE NAVY WE’RE GOING TO HAVE MULTIPLE AIR VEHICLES THAT ARE ABOARD AIRCRAFT CARRIERS THAT CAN CONDUCT AUTONOMOUS OPERATIONS.”

CAPT. CHAD “GUMMER” REED, PROGRAM MANAGER, UNMANNED CARRIER AVIATION PROGRAM OFFICE

“It’s not the first time we’ve had unmanned systems. We have many of them flying in the Navy today but this is the first unmanned system deployed aboard carriers,” said Reed. “What’s unique about this setup is not only the refueling role...”
have we removed the cockpit from the aircraft but we've placed it aboard the carrier.

The Unmanned Aviation Warfare Center (UAWC) will be the carrier-based control center where the Stingray Air Vehicle Operators (AVOs) pilot and monitor the aircraft from control stations. The Navy will eventually modify all NIMITZ-class carriers to add the UAWC, and FORD-class carriers will be built with an existing UAWC space.

The question arises of who is flying the MQ-25 and how. The answer is simple in an unorthodox way. The aircraft is controlled onboard the carrier by a deck handling operator, or yellow shirt, using a handheld device. While airborne, an MQ-25 AVO controls the aircraft through all flight phases - not with joysticks or controls - but from the MD-5 control station within the UAWC where they program the detailed flight plan information and coordinates into the system, and the Stingray does the rest.

"To fly MQ-25 you're using a keyboard and a mouse," said Reed. "You're telling it to go to a certain point and it knows what it needs to do, with its control surfaces, to get to that point safely and expeditiously. The air vehicle operator tells it how fast or how high but doesn't actually control it like a pilot would with stick and throttles."

Hearing the word "Unmanned" could make people think fewer personnel will be required to operate a vehicle but Reed emphasized that in a detachment of five Stingrays, AVOs will still rotate in shifts, maintenance personnel will still tend to the aircraft, and information system technicians will still monitor the software around the clock.

"We're still going to have a full complement of people to support these aircraft," said Reed. "So though we say it's unmanned, there are well over 100 people aboard the carrier to support those five aircraft."

The comparison of personnel between normal squadrons and MQ-25 detachments is drastic but sufficient when you take into account the number of people per plane.

The comparison is also subject to carrier basics. As mentioned, the Stingray is aircraft carrier ready. It takes off with the ship's catapult system and traps using the traditional arresting gear. It's designed to use the Joint Precision Approach Landing System (JPALS). It's the same system the Joint Strike Fighter plane will use to land.

"WE'RE ON A BIT OF A FRONTIER WHEN IT COMES TO NAVAL AVIATION. WE HAVEN'T BEEN HERE BEFORE AND AS WE CONTINUE TO LEARN ABOUT THIS NEW FRONTIER IT SETS THE GROUNDWORK FOR THE AIR WING OF THE FUTURE AND CARRIER STRIKE GROUP OF TOMORROW."

CAPT. CHAD "GUMMER" REED, PROGRAM MANAGER, UNMANNED CARRIER AVIATION PROGRAM OFFICE

This is the one time the Stingray shifts from longitude and latitude into a precision-based system and exchanges information with the carrier to know the movement of the flight deck, the pitch, roll, yaw, etc.

"It's important to get that information quickly, accurately, and to process it to land aboard the ship," said Reed.

That's precision. That's innovation. Reed said that even if for some reason the aircraft doesn't trap correctly, it's designed to go full throttle and take off again, just like normal planes. That's naval aviation at its finest.

The MQ-25 is a knowledge-creating program and the designers, engineers and testers are learning every day. The aircraft is built to be different. In fact, it's built faster. From contract award to delivery of aircraft, the process is about six years. Other programs on average take 13-14 years, sometimes 22. This is a testament to the strength of naval aviation and Boeing aviation and the ingenuity the team has brought into the development of this vessel from day one.

"I'm proud of the team I work with and we're learning something new every day as we explore," said Reed. "We're on a bit of a frontier, when it comes to naval aviation. We haven't been here before and as we continue to learn about this new frontier it sets the groundwork for the air wing of the future and carrier strike group of tomorrow."

CAPT. CHAD "GUMMER" REED, PROGRAM MANAGER, UNMANNED CARRIER AVIATION PROGRAM OFFICE
Victor Glover, an NPS alumnus, conducted the first series of astronaut experiments on the International Space Station research team, including Robotics Laboratory, working with NASA and the ISS Research team on the development of new applications of mobility for the Astrobee spacecraft robotic vehicles.

By Mass Communication Specialist 3rd Class Leonard Weston, Naval Postgraduate School Office of University Communications

NPS & NASA Team Up on “Astrobatics” Project to Advance Spacecraft Robotics

The Astrobatics project, led by Dr. Marcello Romano, aims at developing and testing new dynamic models, and guidance and control techniques for the maneuvering of autonomous robotic spacecraft. The project utilizes the NASA “Astrobee” free-flying robotic vehicle, inside the International Space Station.

For more than a decade, robotic assistants called SPHERES (Synchronized Position Hold, Engage, Reorient, Experimental Satellites) have helped astronauts conduct experiments in areas of formation flight, docking and autonomy.

NASA’s Astrobees, free-flyers designed by NASA Ames and lifted up to the ISS in 2020, bring a new iteration to these astronaut assistants. They are small, one-foot cube autonomous spacecraft that come with many improvements, including auto-docking capability, artificial vision navigation, and an on-board robotic arm.

The NPS Astrobatics project is currently supported by the NPS Alumni Association and Foundation with a seed-level gift fund with Romano as principal investigator, and involves critical technical collaboration by NASA Ames Research Center – Intelligent Robotics Group, as well as operational collaboration by the Department of Defense Space Test Program.

According to NPS Astrobatics Engineering and Operations Team Lead, Dr. Jennifer Hudson, the team is possibly the first to demonstrate how an autonomous vehicle can use a robotic arm to maneuver an orbiting space vehicle from the surface of another spacecraft. This opens the door for new orbital robotics applications.

“I think projects like ours are helping to advance robotic capabilities in space and are really contributing to this revolution in the technology that’s going to enable more and more complex operations in space over the next decade – things that aren’t even possible now,” said Hudson. “I think we’re the first ones who have demonstrated use of a robotic arm to move a vehicle from one location to another on a spacecraft.”

To conduct the first experiment, NPS researchers worked with NASA Ames to upload flight software developed by NPS students. In turn, the flight software took control of the Astrobee spacecraft, and successfully flew it performing “hopping” maneuvers by using the small robotic arm as a jumping spring.

With the first experiment complete, the Astrobatics team has had some time to analyze the data collected, and are determining what series of experiments will be needed for their next iteration.

Dr. Stephen Kwok-Choon, NPS’ Astrobatics deputy team lead, notes the experiment involved eight different self-toss maneuvers that encompassed 18 different runs. Each self-toss maneuver started with the Astrobee grasping on a handrail, then the Astrobee robotic arm was commanded to move to a final flight state, followed by releasing the arm’s grip. This allowed the Astrobee to perform a launch from a handrail projecting itself into motion, explained Kwok-Choon.

“I am grateful and excited to report that overall, the experiment session was a resounding success,” said Kwok-Choon. “Our experiment highlighted that both the Astrobee vehicles can be successfully utilized for different payload developers onboard the ISS. This will lead to greater flexibility and coordination for future experiments.”

The collaborative effort with NASA’s Ames Research Center of Mountain View, California, has been invaluable throughout this endeavor.

“I think projects like ours that are helping to advance robotic capabilities in space are really contributing to this revolution in the technology that’s going to enable more and more complex operations in space over the next decade – things that aren’t even possible now,” said Hudson. “This is a very nice, accessible hands-on project where the students can work on projects in the lab and then see them implemented in space in a very short time frame. We certainly look to continuing that relationship and working on other Astrobote projects in the future.”

The NPS Astrobatics Team stressed the effort would not have been possible without great support from the NASA Ames Intelligent Robotics Group, Romano noted, whose assistance has been invaluable throughout this endeavor.

Hudson said one of the most exciting aspects of this project is the students’ opportunity to work closely with NASA Ames on the development and utilization of the Astrobee, and on the future of spacecraft robotics.

“It’s a great educational opportunity for the students in astronautical engineering,” said Hudson. “This is a very nice, accessible hands-on project where the students can work on projects in the lab and then see them implemented in space in a very short time frame. We certainly look to continuing that relationship and working on other Astrobote projects in the future.”

On March 17, Naval Postgraduate School (NPS) students and researchers in the NPS Spacecraft Robotics Laboratory, working with NASA and the International Space Station research team, including astronauts Dr. Shannon Walker and U.S. Navy Cmdr. Victor Glover, an NPS alumnus, conducted the first of five experiments in the NPS “Astrobatics” project.

This spring, Naval Postgraduate School (NPS) students and researchers in the NPS Spacecraft Robotics Laboratory, working with NASA and the International Space Station research team, including astronauts Dr. Shannon Walker and U.S. Navy Cmdr. Victor Glover, an NPS alumnus, conducted the first of five experiments in the NPS “Astrobatics” project.
World War II began on Sept. 1, 1939, when Germany invaded Poland and provoked war with Britain and France. The United States remained neutral until Dec. 7, 1941, when Japan attacked Pearl Harbor. One of the most important battles of the war was the Battle of Midway. "Codebreakers played a significant role in preparing the U.S. Navy to fight the battle at Midway," said Dr. Timothy Francis, senior advisory historian at Naval History and Heritage Command. "After the battle of Coral Sea in May 1942, the United States had three fleet carriers available while the Japanese had four. The Japanese still had the initiative, having recently conquered most of Southeast Asia (including Singapore, Malaya, the Philippines and the Dutch East Indies), and were expanding their control in the south Pacific. The question was where would the Japanese go next? The three major lines of attack were against Alaska in the north, Midway and Hawaii in the center, and the approaches to Australia in the south. If Nimitz (Adm. Chester W. Nimitz, Pacific Fleet commander in chief) and staff had guessed wrong and placed their three carriers in the wrong place, the Japanese could have scored another dangerous victory."

The Japanese navy’s plans for defeating the U.S. Navy’s Pacific Fleet were moving forward at a brisk pace in the spring of 1942. Adm. Isoroku Yamamoto, the mastermind behind the attack on Pearl Harbor, had created a plan to put a quick end to the war by luring the U.S. Navy into a decisive battle at Midway Island.

Two U.S. fleet radio-intercept units were in operation in the Pacific: one in Melbourne, Australia (FRUMEL—Fleet Radio Unit Melbourne), and another at Pearl Harbor ("Hypo" or FRUPAC—Fleet Radio Unit Pacific). These facilities intercepted Japanese radio communications and, through traffic analysis and codebreaking, uncovered the location of enemy fleet units and shore-based air forces. By translating messages and studying operational patterns, Melbourne and Hypo were able to predict future Japanese operations with some degree of certainty. The intelligence centers provided their analysis through daily briefings and warning reports to senior American commanders, including Nimitz.

In March 1942, the designator "AF" began appearing in partially decoded messages. On March 13, American cryptanalysts both broke the Japanese navy’s general-purpose code and tentatively identified "AF" as Midway. Following a radio deception operation May 22, Hypo confirmed that "AF" indicated Midway. Hypo then cracked the date cipher the Japanese used in its messages, which enabled better analysis of message traffic. After scrutinizing previously intercepted messages, the code breaking team at Hypo predicted the Japanese would attack Midway on June 4. With this vital information, Nimitz was able to plan American countermeasures that included reinforcement of the forces already on Midway and positioning all three U.S. Navy carriers in the vicinity.

On June 4, Navy search planes found the Japanese carriers first. Torpedo bombers from the three American carriers attacked early but were nearly wiped out by defending Japanese fighters and anti-aircraft fire. A second wave of dive-bombers from U.S. carriers Enterprise and Yorktown attacked next with more success; aircraft from Enterprise fatally damaged Japanese carriers Kaga and Akagi, while aircraft from Yorktown wrecked carrier Soryu. Hiryu, the one Japanese carrier that escaped destruction that morning, launched dive-bombers and torpedo planes that struck Yorktown and forced her abandonment. In return, aircraft from Enterprise mortally damaged Hiryu in a strike that afternoon. The destruction of the Carrier Strike Force compelled Yamamoto to abandon his Midway invasion plans and the Japanese fleet began to retreat. "With four fleet carriers sunk, the Japanese were put on the strategic defensive," said Francis. "Two months after Midway, U.S. forces landed in the Solomon Islands to start the Guadalcanal campaign. That operation, and others launched in the south and central Pacific the following year, kept the Japanese on the strategic defensive for the rest of the Pacific War." Today, the U.S. Navy’s codebreakers are known as CTRs (Cryptologic Technician, Collection). CTRs serve as experts in intercepting signals. Their responsibilities include: analyzing and reporting on communication signals, providing tactical and strategic signals intelligence, technical guidance, and information warfare support to surface, subsurface, air, and special warfare units.

NHHC, located at the Washington Navy Yard, is responsible for the preservation, analysis and dissemination of U.S. naval history and heritage. It provides the knowledge foundation for the Navy by maintaining historically relevant resources and products that reflect the Navy’s unique and enduring contributions through our nation’s history, and supports the fleet by assisting with and delivering professional research, analysis and interpretive services.

NHHC is composed of many activities including the Navy Department Library, the Navy Operational Archives, the Navy art and artifact collections, underwater archeology, Navy histories, 10 museums, USS Constitution repair facility and the historic ship Nautilus.

To learn more about why Navy history matters, visit history.navy.mil.
Chief of Naval Research Rear Adm. Lorin Selby today declared "the state of our Naval unmanned capabilities is truly unmatched," and vowed continued support for the nation's ongoing transition to a hybrid manned-unmanned force in the future.

Speaking during a visit to San Diego for the U.S. Pacific Fleet-led Unmanned Integrated Battle Problem 21 (IBP21), Selby said the exercise, which puts into operation different unmanned vehicles "Above the sea, On the sea and Below the sea," demonstrates that America's growing focus on autonomous capabilities is showing impressive results.

"We are not yet where we want to be," said Selby, "but we are getting closer. As our potential adversaries go all-in on unmanned platforms, we must, and will, maintain a dominant force that can meet and defeat any challenge."

During the exercise, a large number of multi-domain unmanned platforms—including unmanned aerial, surface and underwater vehicles (UAVs, USVs and UUVs, respectively)—are being put into real-world, "blue-water" environments, working in sync with manned platforms in actual combat drills designed to support Pacific Fleet objectives in the Indo-Pacific region.

Many of the platforms in IBP21 are supported by the Naval Research Enterprise (NRE), which Selby commands. Comprising the Office of Naval Research (ONR); the Naval Research Laboratory; and the Office of Naval Research Global (ONR Global), the NRE is tasked with providing the capabilities and long-term vision ensuring U.S. naval dominance today and into the future.

While many platforms in IBP21 are classified, officials are highlighting the Medium Displacement Unmanned Surface Vehicles (MDUSV) Sea Hunter and its new sister craft, Sea Hawk, as well as a long-endurance UAS—all of which can be used for surveillance, anti-submarine warfare and other missions.

Sea Hunter is already a proven player in the Navy's unmanned portfolio. In 2019, the vessel completed an autonomous trip from San Diego to Pearl Harbor, a distance of over 2,000 nautical miles, and returned, demonstrating credible and relevant naval capability.

Sea Hunter is already a proven player in the Navy's unmanned portfolio. In 2019, the vessel completed an autonomous trip from San Diego to Pearl Harbor, a distance of over 2,000 nautical miles, and returned, demonstrating credible and relevant naval capability.

Both MDUSVs can host multiple payloads and perform multiple missions to support Sailor and Marine objectives—and both are seen as game-changers.

Indeed, the performance of many new unmanned technologies are leading the Navy and Marine Corps to rethink concepts of operations, as noted in the widely
PACIFIC OCEAN. An MQ-9 SeaGuardian unmanned maritime surveillance aircraft system flies over Independence-variant littoral combat ship USS Coronado (LCS 4) during U.S. Pacific Fleet’s Unmanned Systems Integrated Battle Problem (UxS IBP) 21, April 21. (U.S. Navy photo by Chief Mass Communication Specialist Shannon Renfroe)

PACIFIC OCEAN. A Seahawk medium displacement unmanned surface vessel participates in U.S. Pacific Fleet’s Unmanned Systems Integrated Battle Problem (UxS IBP) 21, April 21. (U.S. Navy photo by Chief Mass Communication Specialist Shannon Renfroe)

PACIFIC OCEAN. Sailors assigned to amphibious landing transport dock USS Anchorage (LPD 23) prepare a missile target during U.S. Pacific Fleet’s Unmanned Systems Integrated Battle Problem (UxS IBP) 21, April 25. (U.S. Navy photo by Mass Communication Specialist 2nd Class Brandon Williamschurch)

publicized naval document “Unmanned Campaign Framework,” which was recently released by the Department of the Navy.

The Unmanned Campaign Framework notes autonomy will complement, not replace, manned assets, and will provide warfighters far more options in combat.

Dr. Marcus Tepaske, who leads ONR Global’s Experimentation and Analysis program and is coordinating many platforms in use during IBP21, confirmed naval unmanned capabilities are accelerating. He said these kinds of large-scale exercises are essential to ensure what works in theory will work in the fleet.

“The best test you can put a technology through is one where the warfighters get to work with it,” Tepaske said. “Real-world applications are messier, dirtier, wetter and absolutely more beneficial than anything we can test in a lab.”

“Getting the warfighters’ feedback on using these unmanned systems will be one real measure of success for IBP21.”

Coordinating multi-domain manned and unmanned teaming efforts with so many different systems is in itself a daunting challenge. That job is being led by Pacific Fleet crews aboard USS Michael Monsoor (DDG-1001), one of three Zumwalt-class guided missile destroyers with unique advanced capabilities for command and control.

Ultimately, experts say, autonomous systems are here to stay. Dr. Jason Stack, ONR’s technical director and autonomy lead, is encouraged by the forward thinking and real-world forward movement represented by IBP21. Intelligent autonomous systems, he said, will be an essential part of the Navy and Marine Corps in the near-term.

“When you read the Unmanned Campaign Framework, the serious challenge we face is clear,” he said.

Stack noted that the U.S. and allied partners have a more robust commitment to the ethical use of unmanned systems and artificial intelligence when compared to some other nations.

“Our goal is to operationally integrate and continuously improve the types of intelligent and autonomous technologies that Pacific Fleet is testing right now,” he said.

“We will do this ethically and responsibly by always ensuring our Sailors and Marines can exercise the appropriate levels of human judgement over our machines. This will be our enduring competitive advantage.”

The IBP21 exercise is the initial step in the Navy’s commitment to operational experimentation with autonomous systems in the fleet. Following its completion, the Navy and Marine Corps will assess what worked, what didn’t, and how to accelerate unmanned capabilities for the fleet and force.

“WE MUST, AND WILL, MAINTAIN A DOMINANT FORCE THAT CAN MEET AND DEFEAT ANY CHALLENGE.”

CHIEF OF NAVAL RESEARCH REAR ADM. LORIN SELLBY
Practicing Self Care to Treat Post-Traumatic Stress

By Mass Communication Specialist 2nd Class Ashley Cheesman, Defense Media Activity

Post-traumatic stress occurs after experiencing or witnessing a life-threatening event, like combat, a natural disaster, a car accident, or sexual assault. "After experiencing a trauma, many people find themselves avoiding certain aspects of that trauma. They may avoid thinking of certain memories, or avoid activities and places that bring up difficult feelings," said Navy Capt. Paul Sargent, a Psychiatrist at the 21st Century Sailor office.

However, avoidance is what keeps people stuck. "Overcoming trauma requires that a person be able to confront things that they find stressful," he said. "In fact, in evidence based trauma therapies, people often find the treatment to be quite stressful, and it is dealing with the stress through therapy that leads to the reduction of symptoms."

According to the Navy Marine Corps Public Health Center, practicing good self-care is an important part of the healing process. Just as each person's recovery pathway is unique, each individual's approach to self-care can be different. Replenishing your body and mind through self-care enhances your ability to positively cope with post-traumatic stress.

Good self-care includes navigating the daily challenges you face in a healthful way. The following are self-care and coping strategies that have been used successfully by others. You may consider using them in your daily life to help promote healing and enhance your treatment.

Stress can actually be good for you, if you manage it well. You need stress in your life in order to grow," Sargeant said.

There has been a perceived stigma surrounding mental health in the military, especially after the Vietnam era, where little was known about how trauma affected an individual. "One way we can destigmatize reaching out for help if we "de-professionalize it," said Sargeant. Creating a culture on the deckplate that encourages leaders to engage with their Sailors is key to prioritizing emotional and mental health.

"We all need to know that we are not in this alone," he said. "As a friend and a leader, you don't always need to push a person into mental health care in order to help them. Emergency care is available for emergencies, but a strong culture or peer support can prevent many of those emergencies from happening."

Everyone's path to recovery may be different and there are resources to assist you while you positively cope with your symptoms, engage in positive self-care, and work towards reaching your health and wellness goals for the future.

Calling the Military Crisis Line from overseas?
In Europe: Call 00800 1273 8255 or DSN 118
In Korea: Call 068 555 118 or DSN 118
In Afghanistan: Call 00 1 800 273 8255 or DSN 111

Other resources:
Department of Veterans Affairs
Making Connections
Recognizing the Signs of Post-Traumatic Stress
Recommended Wellness Apps

If a person exhibits any of these signs, do not leave the person alone. Call 911, seek immediate assistance from a healthcare professional, and/or call the Military Crisis Line at 1-800-273-8255; press 1.

Calling the Military Crisis Line from overseas?
In Europe: Call 00800 1273 8255 or DSN 118
In Korea: Call 068 555 118 or DSN 118
In Afghanistan: Call 00 1 800 273 8255 or DSN 111

And, remember - a person needs immediate help if they show the following signs: threatens to hurt or kill him/herself or talks about wanting to hurt or kill him/herself; looks for ways to kill him/herself by seeking access to firearms, available pills, or other means; and/or talks or writes about death, dying, or suicide.
PHOTOS FROM THE FLEET

The Naval Service—forward deployed and capable of both rapid response and sustained operations globally—remains America's most persistent and versatile instrument of military influence.
NAVY SUBMARINES TAKE GAMING TO THE NEXT LEVEL

By Mass Communication Specialist 2nd Class George M. Bell, Defense Media Activity

The control room of the Navy’s most advanced submarine is brimming with high-tech computers, monitors, and well-trained sailors whose lives began in the digital age.

It has the appearance of a video game playground at moments, and not merely due to the extremely high-resolution graphics.

The Navy is beginning to operate the periscopes on Virginia-class submarines with an Xbox 360 controller, similar to those seen in stores.

Virginia-class submarines do not feature a typical revolving tube periscope that only one person may view through at a time, unlike other sorts of submarines popularized by the movies.

The periscopes have been replaced with two photonics masts that rotate 360 degrees. They feature high-resolution cameras whose images are displayed on large monitors that everyone in the control room can see.

There’s no barrel to peer through anymore; everything is controlled with a helicopter-style stick. But that stick isn’t so popular.

“The Navy gathered a group of junior officers and junior guys and asked, ‘What can we do to make your life better?’” Lt. j.g. Kyle Leonard, the USS John Warner’s assistant weapons officer, said. “Controls for the scope were one of the things that came out. It feels clumsy in your palm and is quite weighty.”

Lockheed Martin and Navy officials have been collaborating to employ commercial off-the-shelf technologies to cut expenses and capitalize on the technological talents that sailors have honed over the years. As a result of such an endeavor, the Xbox controller for video games was integrated.

The submarine equivalent of “Area 51,” the Nevada station where some of the Air Force’s most advanced and covert programs are tested, is the classified research lab in Manassas where testing took place, according to Lockheed Martin.

The Xbox controller is identical to the ones that many of the staff members grew up with. The sailors who tested the controller at Lockheed Martin’s facility were able to figure out how to use it effortlessly within minutes, contrary to hours of instruction for the joystick.

In addition, the Xbox controller is substantially less expensive. The photonics mast handgrip and imaging control panel, which cost around $38,000, may now be replaced with an Xbox controller, which normally costs less than $30, according to the organization.

“The joystick is by no means cheap, and it is only built to fit on a Virginia-class submarine,” said Senior Chief Electronics Technician Mark Eichenlaub, the John Warner’s assistant navigator. “I can get an Xbox controller from any video game store anywhere in the world, so it’s a really simple replacement.”

The Xbox controller will be included in the integrated imaging system for Virginia-class submarines beginning with the upcoming USS Colorado, which is expected to be commissioned by November, according to the Navy.

According to Brienne Lang, a spokeswoman for the Navy’s program executive office for submarines, the Xbox controller will be placed on other Virginia-class submarines, such as the Norfolk-based John Warner, as part of the routine upgrade process. During its passage from Naval Station Norfolk to Groton, Connecticut, the John Warner carried a demonstration model on board.

“The Navy, according to Eichenlaub, has no plans to discontinue innovation with the Xbox controller. The idea is to create technologies that young people are already familiar with, such as using electronic touch displays on iPads and working in virtual settings. “Theoretically, what they want to see in ten years is a glass panel display with windows, where you can draw a window of information, study it, push it off, and bring in the next window,” he said.

“They want Sailors to be comfortable using the equipment by bringing in everything they have at home on their laptops, desktops, and what they learned in a classroom.”

“THEY WANT SAILORS TO BE COMFORTABLE USING THE EQUIPMENT BY BRINGING IN EVERYTHING THEY HAVE AT HOME ON THEIR LAPTOPS, DESKTOPS, AND WHAT THEY LEARNED IN A CLASSROOM.”

Senior Chief Electronics Technician Mark Eichenlaub,
After graduating high school, Flanders completed his bachelor's degree from the College of Mount Saint Joseph. Job prospects seemed thin even with his new degree in liberal studies, and he knew he needed a change.

Luckily, he had a friend that could help with that. Flanders' friend was a Navy recruiter and in 2014, enlisted him in the Navy as an information systems technician.

"I had no experience working in IT, other than downloading music and using social media, but was excited to learn the trade," said Flanders. "I chose to go submarines because it would get me to bootcamp even faster."

After recruit training, Flanders went to Groton, Connecticut where he not only completed submarine school, but also met his wife. He was then assigned to his first submarine, USS Alaska (SSBN 732) in Kings Bay, Georgia. After completing six deployments and having a daughter, it was time for his next assignment.

"My family and I wanted to come home to Cincinnati because we enjoy it so much here," said Flanders. "The best way to do that was to go recruiting."

After speaking with his enlisted community manager and the chief recruiter in Ohio, he was offered that chance as he reported to Navy Talent Acquisition Group (NTAG) Ohio River Valley in July 2019. He was going to be a talent scout at the North College Hill office in his hometown of Cincinnati.

"I absolutely love it here and love recruiting where I came from," said Flanders. "My favorite thing is providing people the opportunity to change their lives and shape their futures, much like the opportunity I was given."

Flanders believes that recruiting in an environment he is highly familiar with coincides to why he is so successful in his recruiting mission.

"I can recruit at my old high school and see the teachers that were there when I attended," said Flanders. "Many of the kids I went to school with are now teachers at the school and I know some of these students' family members because of my ties to this community. I believe that makes it easier for me."

He also believes it is the way he recruits that sets him apart from others. Instead of the scripted presentations and videos at local schools, he prefers to just tell them his story and ask questions.

When presented with the opportunity to come back to his hometown of Cincinnati, Ohio to change lives, Information Systems Technician (Submarines) 1st Class Marlin Flanders jumped at the opportunity.

"I share my experience and speak from the heart," said Flanders. "I basically introduce myself, explain my situation after high school and just talk about why I joined and what I've been able to do. All the benefits that come with it are explained as I tell my story. I paint a picture with words so these students can see themselves in a similar, very positive, situation."

He is currently working on his Masters of Science in Cybersecurity at Regent University and plans on joining the Naval Reserves to be commissioned after his active duty enlistment.

"The Navy provides a great path to a successful future," said Flanders. "Regardless of your job or where you are stationed, you'll be provided with steady pay, free medical and dental and free college. Even if you don't make a career out of the Navy, it can be an amazing stepping stone to whatever future path you go down."
LIFE INSIDE
NAVY EOD
EXPLOSIVE ORDNANCE DISPOSAL

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