USS Roosevelt Departs for Sixth FNDF-E Patrol

Arleigh Burke-class guided-missile destroyer USS Roosevelt (DDG 80) in the Artic Circle. Roosevelt, forward-deployed to

Rota, Spain, on its first patrol in the U.S. 6th Fleet area of operations in support of regional allies and partners and U.S. national security interests in Europe and Africa. *U.S. Navy*
NAVAL STATION ROTA, Spain – Arleigh Burke-class guided-missile destroyer USS Roosevelt departed Naval Station Rota, Spain to begin its sixth Forward-Deployed Naval Forces-Europe (FDNF-E) patrol, April 11.

The ship and her crew will begin this patrol by crossing the Strait of Gibraltar and operating in the Mediterranean Sea, in support of U.S. 6th Fleet tasking.

“Roosevelt’s crew is excited to get underway and get back to sea where we belong,” said Commander Jeffrey Chewning, Commanding Officer of Roosevelt. “We look forward to executing the mission we’ve been given over the next several months.”

Roosevelt completed its fifth FDNF-E patrol in November 2023. The fifth patrol took the ship and crew throughout the Mediterranean Sea and across the 6th Fleet area of operations. While in the Med, Roosevelt integrated with the Gerald R. Ford Carrier Strike Group, supporting security and stability in the region.

While on patrol in the Baltic in the summer of 2023, Roosevelt participated in NATO’s enhanced vigilance activity (eVA) Neptune Strike 23-2 and operated with NATO Allied Maritime Command’s Standing NATO Maritime Group One (SNMG-1), demonstrating increased interoperability with NATO allies and partners.

Roosevelt was also the first American warship to conduct a Naval Surface Fire Support live fire exercise off the coast of Latvia.

Roosevelt is one of four U.S. Navy destroyers based in Rota, Spain, and assigned to Commander, Task Force 65 in support of NATO’s Integrated Air Missile Defense architecture. These FDNF-E ships have the flexibility to operate throughout the

waters of Europe and Africa, from the Cape of Good Hope to the Arctic Circle, demonstrating their mastery of the maritime domain.

For more than 80 years, U.S. Naval Forces Europe-U.S. Naval Forces Africa (NAVEUR-NAVAF) has forged strategic relationships with our Allies and partners, leveraging a foundation of shared values to preserve security and stability.

Headquartered in Naples, Italy, NAVEUR-NAVAF operates U.S. naval forces in the U.S. European Command (USEUCOM) and U.S. Africa Command (USAFRICOM) areas of responsibility. U.S. 6th Fleet is permanently assigned to NAVEUR-NAVAF and employs maritime forces through the full spectrum of joint and naval operations.

ONR Global Gaining Insight into the Effects of Glacial Melting in Coastal Regions

The Office of Naval Research is studying how melting glaciers in Patagonia can affect the coastal environment. *ONR*

A research project from the Office of Naval Research (ONR) Global is providing valuable information about the effects of melting glaciers in Patagonia that feed into coastal fjords, transporting sediments, freshwater and nutrients.

Dr. Chris Konek, science advisor at ONR Global in Chile, said the research will help the Department of the Navy understand the effects of a changing climate on the coastal environment.

“That’s the kind of the thing the Marines need to be able to handle,” he said. “It’s basic research and so it will help provide a fundamental understanding of this aspect of coastal systems where you can expect more things like this to happen in the future – more glacial melting as opposed to less.”

Konek said sediment trapped in the melting glaciers creates higher density in the water that feeds into the fjords, creating stratification and internal waves.

“When we have those waves between different layers in the water in the ocean, we call those internal waves,” Konek said. “So then the idea of the project is that you have this glacial

plume, the sediment and the internal waves, and you're looking to see how these different features interact with one another."

Cristian Escauriaza, professor, Pontificia Universidad Católica de Chile, is the principal investigator along with his university colleague, Megan Williams. They are working with the Filantropía Cortés-Solari, a conservation organization that owns and manages the Melimoyu Elemental Reserve in northern Patagonia.

Escauriaza said, "We are interested in understanding the changes in the physical environment produced by the large input of glacial rivers to the coast. In these sub-Antarctic regions, and similarly near the Arctic, the effects of the fresh water in the coastal ocean can change the physical properties and dynamics of the flow in the adjacent fjords."

Patagonia is largely remote with a diverse ecosystem and a rich array of wildlife, including penguins and blue whales. Konek said ONR Global is interested in Escauriaza's project for its potential to inform what's happening to that ecosystem, which can also help inform what's happening to other coastal regions experiencing the same challenges.

While the project in Patagonia was awarded about a year ago, Escuariaza's team recently carried out field measurements.

"Early information has shown that measurements of the tide amplitudes, river discharge variability, temperature and salinity are critical to identify the leading mechanisms of the formation and propagation of internal waves," Escuariaza said.

He added, "The fjords and river systems in Patagonia are a critical part of the sub-Antarctic region and understanding their dynamics is vital to addressing the challenges posed by climate change. Our goal is to provide new insights into the processes that govern these coastal systems, which will help

develop sustainable strategies for their management.”

Researchers from Stanford and Stonybrook Universities, Oliver Fringer, Stephen Monismith and Jacqueline McSweeney, are also taking part in the study.

Konek said collaboration among the scientific community is key to what ONR Global is able to accomplish through its research awards.

“We’ve got two people at the Naval Research Lab that are really supportive of the project. One of them was recently promoted to technical director of the Naval Meteorology and Oceanography Command, so we’re hoping that kind of collaboration continues and expands.”

In addition to measuring the effects of glacial waters in Patagonia’s coastal fjords, Konek said ONR Global is sponsoring another project on climate change with the same university for the prediction of heat waves across both North and South America.

Navy Launches Wi-Fi Pilot Program at Select Virginia Installations

The Ticonderoga-class guided-missile cruiser USS Normandy (CG 60) returns to Naval Station Norfolk following an eight-month deployment, Jan. 20. Naval Station Norfolk is one of the locations for a new free Wi-Fi pilot program. *U.S. Navy | Mass Communication Specialist 2nd Class Anderson W. Branch*

WASHINGTON Free Wi-Fi is expected to provide Sailors access to virtual entertainment as well as online training and higher education courses without having to pay out of their own pockets.

To determine if free Wi-Fi meets the needs and desires of Sailors residing in unaccompanied housing, the Navy is launching a pilot program at installations located in the Hampton Roads area of Virginia. Rollout will be completed by the end of February 2024.

“Conducting a pilot program will help us learn and ensure we deliver a service our Sailors will use and find value added. As we learn throughout the process, we will identify barriers and refine the Wi-Fi service before rolling it out to the wider Navy,” said Vice Adm. Scott Gray, Commander, Navy

Installations Command (CNIC). “It is important we get it right to focus our precious resources to greatest effect.”

Sailors residing at 12 permanent party unaccompanied housing located onboard Naval Station Norfolk, Naval Medical Center Portsmouth and Norfolk Naval Shipyard will be able to access high speed Wi-Fi in their rooms and in common areas at no cost. Sailors desiring higher speed internet service may elect to pay an additional surcharge for augmented services or opt out altogether.

“We are excited to launch the Wi-Fi pilot program, and we are hoping Sailors find it useful and valuable to both their entertainment and career development needs,” said Leslie Gould, director of CNIC’s Fleet and Family Readiness, which is spearheading the pilot. “In addition to having access to online games, shows, and movies, Sailors will be able to complete required training, such as their General Military Training (GMT), and even take online courses offered by universities or colleges.”

Content accessed via the free Wi-Fi and subsidized speed upgrades will be filtered to prevent access to sites containing illegal activity, pornography, or gambling. Prices are as follows:

- 30Mbps download/5Mbps upload – Free (unlimited devices)
- 60 Mbps/5 Mbps – weekly on demand $10; month-to-month $20 (limited to 5 devices)
- 100 Mbps/10 Mbps – weekly on demand $15; month-to-month $30 (limited to 5 devices)

In addition to the above speed and rate charges, Sailors have the option to access unfiltered internet content for the following rates:

- 10 Mbps download/3 Mbps upload – weekly on demand $19.95

(limited to 1 device)
- 30 Mbps/5 Mbps – weekly on demand $34.95 (limited to 1 device); month-to-month $49.95 (limited to 3 devices)
- 60 Mbps/5 Mbps – month-to-month $59.95 (limited to 5 devices)
- 100 Mbps/10 Mbps – month-to-month $79.95 (limited to 5 devices)

The pilot program will wrap up at the end of September at which time the Navy will assess the success of the pilot based largely on Sailor utilization and feedback.

The Wi-Fi pilot is part of a new and larger program called the Virtual Single Sailor Program, which directly supports the Quality of Service of Sailors. The Virtual Single Sailor Program, or VSSP for short, enhances the lifestyle of the modern Sailor by providing a new virtual entertainment environment while supporting their overall health through access to fitness and nutrition content and other virtual resources. The VSSP website (www.NavyMWRSingleSailor.com) will go live on January 30.

SECNAV Del Toro Meets with Key Leaders During Travel Through Europe

U.S. Air Force Lt. Gen. Steven Basham, U.S. European Command deputy commander, hosted U.S. Secretary of the Navy Carlos Del Toro during a visit to the command's Stuttgart, Germany, headquarters Jan. 22. *U.S. European Command | Staff Sgt. Aaron Daugherty*

Secretary of the Navy Carlos Del Toro traveled to Stuttgart, Germany for key leader engagements, Jan. 21-22.

During his visit, Del Toro held an office call with U.S. Marine Corps Gen. Michael E. Langley, the sixth commander of U.S. Africa Command, met with senior Navy and Marine Corps officers and enlisted leaders, and participated in an AFRICOM roundtable. He discussed AFRICOM's efforts to counter transnational threats and malign actors, strengthen security forces, and support partners in Africa using a 3D approach: diplomacy, development and defense.

Del Toro also met with U.S. Air Force Lt. Gen. Steven L.

Basham, deputy commander, U.S. European Command, Patch Barracks. As the deputy commander for U.S. European Command, Basham is responsible for establishing and overseeing a warfighting headquarters that conducts a full range of multi-domain operations in coordination with allies and partners to support NATO, deter Russia, enable global operations and counter transnational threats to defend the U.S. homeland forward and fortify Euro-Atlantic security.

In addition, Del Toro met with the team at U.S. Marine Corps Forces, Europe and Africa (MARFOREUR/AF). Led by Maj. Gen. Robert B. Sofge Jr., MARFOREUR/AF works with sister U.S. services and NATO partners to facilitate European and African engagements in support of global campaigns, enhancing joint, and combined forces through NATO.

“There is nothing that we do on our Navy and Marine Corps team that is not done in concert with our allies and partners,” Del Toro said. “From the combatant commander all the way down to the most junior Sailor and Marine, our work abroad protects our way of life at home.”

While in Stuttgart, Del Toro held all-hands calls with Navy, Marine Corps, civilian personnel and their families to hear firsthand about their concerns and answer their questions. He also met with various servicemembers at each command to recognize their accomplishments.

“I’ve said it before, and it bears repeating. I am grateful for all you do for our Nation,” Del Toro said. “We’re facing challenging times, and I thank you for everything you do as we face significant threats to democracy around the world.”

Del Toro will travel to Berlin for additional engagements in the region before heading to the United Kingdom to deliver a speech at the Royal United Services Institute, the world’s oldest and the U.K.’s leading defense and security think tank.

US, Republic of Korea, Japan Navies Conduct Trilateral Exercise

USS Carl Vinson (CVN 70), shown here anchored in Manila, Philippines in early January. The carrier later took part in a trilateral exercise with navies from Korea and Japan. *U.S. Navy | Mass Communication Specialist 3rd Class Micheal Mensah*

BUSAN, Republic of Korea – The U.S. Navy, the Republic of Korea navies and Japan Maritime Self-Defense Force executed a trilateral-naval exercise Jan. 15 to Jan. 17 south of Jeju Island, in international waters near the Korean Peninsula and Japan.

Commander, Naval Forces Korea participated with Carrier Strike Group (CSG) 1 aboard USS Carl Vinson (CVN 70) in the multi-day

trilateral exercise that focused on integration, interoperability and readiness across multiple complex warfare areas.

“This exercise sharpens our combined skills and deepens our relationship with our partner nations,” said Rear Adm. Neil Koprowski, commander, CNFK. “Our close-knit teamwork with ROK and JMSDF is critical to the success of conducting combined maritime operations and training at sea.”

The collaborative exercise reflects shared values, through a trilateral commitment to deter aggression, and to maintain peace and stability on the Korean Peninsula.

The USS Carl Vinson, the flagship of CSG 1, kicked off the exercise Monday. The USS Carl Vinson previously conducted a trilateral maritime exercise with JMSDF and ROK on November 26, 2023.

These exercises support a free and open Indo-Pacific.

CNFK is the U.S. Navy’s representative in the Republic of Korea, it fosters enduring relationships with joint, combined, and multinational partners and strengthens combined maritime warfighting capability, interoperability, and readiness.

SECNAV Del Toro Directs Comprehensive Navy Shipbuilding Review

Rear Adm. Tom J. Anderson, then acting commander of Naval Sea Systems Command, discusses the construction status of pre-commissioning unit John F. Kennedy (CVN 79) with HII's construction leadership team during a production progress visit in September 2023. *U.S. Navy | Mass Communication Specialist 2nd Class Tyler Slavicek*

Secretary of the Navy Carlos Del Toro has directed newly confirmed Assistant Secretary of the Navy for Research, Development & Acquisition Nickolas Guertin and Commander of Naval Sea Systems Command Vice Adm. James Downey to conduct a comprehensive analysis of the Navy shipbuilding portfolio.

The intent is to provide an interim progress review to Secretary Del Toro within 45 days. The purpose of the review is to provide an assessment of national and local causes of shipbuilding challenges, as well as recommended actions for achieving a healthier U.S. shipbuilding industrial base that provides combat capabilities that our warfighters need, on a schedule that is relevant.

"I remain concerned with the lingering effects of post-

pandemic conditions on our shipbuilders and their suppliers that continue to affect our shipbuilding programs, particularly our Columbia-class ballistic missile submarines and Constellation-class frigate," Del Toro said. "The Department of the Navy has a strategic imperative requiring a whole-of-government effort to rebuild our nation's comprehensive maritime power – a new Maritime Statecraft in which the Navy plays a vital role. The American public should know that the Department of the Navy is committed to developing, delivering, and sustaining the finest warfighting capability to our Sailors and Marines. We will continue to work with industry and all other stakeholders to strengthen our national shipbuilding capacity, both naval and commercial."

Inaugural Navy Exercise Tests Dozens of Ship Maintenance Technologies

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

NAVAL BASE VENTURA COUNTY, Calif. – A variety of robots crawling in, on and below a decommissioned U.S. Navy destroyer, as well as replacement parts being additively manufactured on site, comprised just a small part of the activity that took place during the first-ever U.S. Navy Repair Technology Exercise, or REPTX, held Aug. 22-Sept. 1 at Naval Base Ventura County in Ventura County, California.

Teams from various companies as well as academic and government laboratories arrived from around the world with their technology applications to conduct demonstrations and

field experiments aboard the decommissioned Spruance-class destroyer, known as the Self Defense Test Ship. The ship is operated by personnel from Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) in Port Hueneme, California, a field activity of Naval Sea Systems Command and located at NBVC.

NAVSEA's Naval Systems Engineering and Logistics Directorate Technology Office (NAVSEA 05T) sponsored REPTX 2022, which was hosted by NSWC PHD and held both pierside and aboard the SDTS, which took to the sea for the second week of the event.

The purpose of the inaugural exercise was to see if the technology can tackle real-world fleet maintenance and battle-damage related repairs of ships while operating in a true maritime environment – boosting the Navy's ability to keep ships at sea by aiding Sailors in carrying out needed repairs.

"The format provides a realistic fielding environment, both pierside and underway, allowing teams the chance to field, adjust, learn and retest their solutions," said Janice Bryant, sustainment technology program manager at NAVSEA 05T.

"REPTX didn't just showcase technology but applied it to solve Navy challenges," Bryant added. "It was a problem-centric event that promoted collaboration rather than competition. Many problems require a complex solution, and multiple participants have independent pieces of that solution."

The more than 60 REPTX participants demonstrated technologies designed to address four focus areas: visualization, command and control aids, forward manufacturing and expeditionary maintenance.

The technology also needed to be capable of taking on a "day job" – in other words, serving a purpose that adds value to Navy ships and crew on a routine basis. And, it has to be user-friendly enough for a ship's crew to learn quickly.

“Our priorities as a warfare center are to deliver and sustain readiness, modernize and maintain the current fleet, and field the surface fleet of the future,” said Capt. Andrew Hoffman, NSWC PHD commanding officer. “REPTX demonstrates these priorities by allowing both industry, government and academia to work side-by-side while exploring innovative maintenance concepts that we can rapidly deliver to our forward-deployed warfighters.”

Approximately 20 reservists from the Navy’s Surge Maintenance (SurgeMain) program provided that ship’s crew perspective as they got hands-on with much of the technology, learning how to operate the remote-controlled robotics, wearing augmented reality (AR) headsets to view repair instructions and videos, measuring corrosion on the deckplate of the SDTS, and more.

“The SurgeMain sailors typically don’t get chances like this to provide input on new technologies, so it was hugely important for them to have that opportunity,” said REPTX Project Manager Suzie Simms. “At the end of the event, all of the SurgeMain sailors who participated said they want to be involved again next year.”

Scenarios where reservists were able to remotely control robots included identifying unknown objects on the side of the ship’s hull, detangling a fouled propeller, measuring the depth of metal wastage due to corrosion using ultrasonic waves, and inspecting tight spaces that would be difficult or dangerous for a human to go into.

Several companies brought AR technology to the SDTS, providing both communication and real-time visuals during simulated battle damage assessment scenarios as well as repair work instructions and videos that can be viewed through the headset while simultaneously looking at the damaged area.

Additive manufacturing technology installed in compact shipping containers both pierside and aboard the SDTS provided

the capability to 3D print replacement parts as needed in a variety of materials.

Sarcos Mechanical Engineer Parker Hill (left) focuses on a monitor while guiding a remotely operated vehicle through an underwater demonstration as Hull Maintenance Technician Petty Officer 2nd Class Remedios Verduzconuñez with the Navy's Surge Maintenance program observes the ROV's progress on Aug. 25 at Naval Surface Warfare Center, Port Hueneme Division. The demonstration aboard the Self Defense Test Ship tested the ROV's ability to clear a rudder or propeller fouled by debris. *U.S. NAVY / Eric Parsons*

Other scenarios involved ship-to-shore communication systems, inspection and repair tools, and above- and below-water visualization devices.

Technology suppliers assisted SurgeMain reservists in using and demonstrating the technology aboard the SDTS during week two – this time in a true maritime environment as the vessel went underway off the coast of Port Hueneme. Unmanned aerial vehicle (UAV) operators got a chance to fly their camera-equipped drones around the ship to inspect it.

The main goals of the UAV demonstrations during REPTX were to identify issues like corrosion and misplaced items and to test the UAVs' capabilities to aid in battle damage assessment and repair – a key focus area for the Navy – by rapidly creating digital models, among other things.

In one scenario, a flange with a leaky gasket was the focus of a collaborative effort on the last underway day of REPTX. The SDTS crew had identified the issue in the ship's state room, and several technology suppliers worked on a fix with SurgeMain sailors.

A reservist used an AR headset during the scenario to connect remotely with a subject matter expert elsewhere to help inspect and measure the faulty flange.

Armed with measurements of the flange assembly, two additive manufacturing companies participating in REPTX later 3D-printed parts that could be used to replace the flange and gasket in the state room.

Other underway demonstrations tested, repaired and monitored vital equipment on the ship.

Participants and organizers agreed that some of the best things to come out of REPTX were the spontaneous collaborations between attending organizations that revealed more efficient uses of their individual technologies when used together.

Along with the focus on collaboration, organizers designed the event to be educational for everyone involved.

"REPTX facilitated learning on both the government and participant sides," said Jason Bickford, research manager at NSWC PHD. "We've heard unanimous positive feedback from participants that it was a valuable experience for them."

The learning experience was impactful in that it was hands on,

operationally based and held aboard an active ship.

Bryant said that next steps include determining how to invest $2 million in follow-on funding to further develop technologies for fielding in the fleet. The REPTX team will also release to the public a comprehensive after action report on the event.

Meanwhile, discussions are underway for a sequel.

“Events like REPTX enable NAVSEA to be more agile and competitive in the future fight,” Bryant said. “Providing access to Navy assets, crew and problems allows traditional and non-traditional players to engage together, quickly and effectively. Continuing efforts like REPTX are essential as the Navy looks to build a more resilient and sustainable fleet and innovative and responsive industrial base.”

CNO Hosts Israel’s Head of Navy, Focused on Partnership and Maritime Security

Chief of Naval Operations Adm. Mike Gilday meets with Commander in Chief of the Israeli Navy Vice Adm. David Saar Salama during an office call at the Pentagon, June 8. *U.S. NAVY / Mass Communication Specialist 2nd Class T. Logan Keown*

WASHINGTON – Chief of Naval Operations (CNO) Adm. Mike Gilday hosted the commander in chief of the Israeli Navy, Vice Adm. David Saar Salama, in Washington, D.C., for a formal counterpart visit, June 8-9, the CNO's public affairs office said in a release.

The two leaders discussed several topics of shared interest including force design, strategic competition, unmanned technologies and regional security efforts.

The two-day visit included a full honors ceremony, meetings with senior U.S. Navy leadership and a visit to the United States Holocaust Memorial Museum.

"Our strategic partnership with Israel is ironclad and enduring," said Gilday. "United by our commitment to a rules-based international order, free and open seas, and advancing

collective capabilities, our two navies have never been more aligned than they are today. I look forward to working closely with Adm. Salama to strengthen our partnership and interoperability."

"The cooperation between the Israeli Navy and the U.S. Navy, led by my friend Adm. Mike Gilday, is another testament to the strength of the strategic partnership and friendship between the two navies," said Salama. "The joint work with the U.S. Navy, especially with the 5th and 6th Fleets, will continue to yield many achievements for Israel and overall maritime security. Together, we will continue to face the challenges ahead in order to maintain stability at sea."

U.S. Navy and Israeli Naval Forces regularly operate together around the world, particularly in the U.S. 5th and 6th Fleet Area of Operations. Most recently, the U.S. Navy and the Israeli Navy participated in Intrinsic Defender 22, a bilateral exercise focused on maritime security operations, explosive ordnance disposal, health topics and unmanned systems integration.

On Sept. 1, 2021, the U.S. Department of Defense officially reorganized Israel within the area of responsibility of U.S. Central Command.

This was the first meeting between Gilday and Salama.

Navy Trains to Counter Drone Threats at Point Mugu

Naval Air Warfare Center Weapons Division's Pacific Target Marine Operations and Threat/Target Systems Department recently deployed small drones over Naval Base Ventura County, Point Mugu to provide cost-effective unmanned aerial system familiarization and threat training. *U.S. NAVY / Ensign Drew Verbis*

VENTURA COUNTY, Calif. – The Pacific Target Marine Operations, a division of Naval Air Warfare Center Weapons Division's Threat/Target Systems Department, recently deployed small drones over Naval Base Ventura County, Point Mugu, to provide cost-effective unmanned aerial system familiarization and threat training.

"The Low-Speed Aerial Target- Small [LSAT-S] program developed a cost-effective target training and deployment program that directly represents the UAS threat the fleet faces daily," said Pete Pena, PTMO program lead. "UAS are classified by their size, range, and speed, and are broken into five groups based on those attributes. We're flying group 1 drones which are considered to be the greatest threat to military forces across the globe due to their unique range of capabilities as

well as their relatively low cost and small size.”

In 2021, speaking at a U.S. Senate committee, Gen. Kenneth McKenzie, commander of U.S. Central Command, referred to the proliferation of small drones as the “most concerning tactical development” since the emergence of improvised explosive devices.

Groups 1-3 can range from over-the-counter handheld drones to medium sized drones with sensors and the capacity to deliver weaponized payloads. However, the main threat that comes from groups 1-3 is intelligence, surveillance, and reconnaissance. These drones can be difficult to detect and destroy due to their low flying altitude and small size.

“Point Mugu is a no drone zone,” said Fire Controlman 1st Class Petty Officer Michael Jordan, assigned to NBVC. “It is difficult to obtain authorization to operate drones in this controlled airspace, even for military units. So, this demonstration provided a rare opportunity for watch standers to experience live drone flights and provide identification, which is the first step in countering threats.”

In 2019, Ellen Lord, the former undersecretary of defense for acquisition and sustainment, established a waiver system to authorize drone operations on military ranges in highly controlled conditions, to test the U.S. military’s counter-UAS capabilities.

Civilian and military operators had a chance to fly multiple different scenarios onboard Point Mugu, Pena added. Each test presented a range of conditions, spanning from the direction a UAS was flying to a variance in flight patterns, altitudes, airspeeds, and representative threats.

“This demo is a force multiplier which allows us to offer more frequent and robust counter-UAS presentations to the fleet and

installation commanders," said Cmdr. Todd "Jazz Hands" Faurot, LSAT-S pilot. "This increases our defenses during peacetime and also providing for a war time surge capability."

The first step in countering the rising threat from UAS is target acquisition and identification. The proliferation of UAS, especially group 1-3, the downsizing of the technology, and its decreasing costs of production will make threat detection difficult.

"Our demonstrations provide the fleet with important UAS familiarization and training to face this increasing airborne threat," added Pena.

NBVC is comprised of three distinct operational facilities: Point Mugu, Port Hueneme and San Nicolas Island. It is Ventura County's largest employer and protects Southern California's largest coastal wetlands through its award-winning environmental program.

ONR Chief Unveils New Vision to Reimagine Naval Power

Rear Adm. Lorin Selby, chief of naval research, delivers remarks at the HACKtheMACHINE Unmanned competition in Alexandria, Virginia, Nov. 17. HACKtheMACHINE Unmanned is the first in a series of public-facing technology challenges aimed at accelerating discovery and teambuilding between the DoN, industry and academia for the creation of groundbreaking unmanned and autonomous systems. *U.S. NAVY / Michael Walls*

ARLINGTON, Va. – Declaring "Our time to innovate is now," Chief of Naval Research (CNR) Rear Adm. Lorin C. Selby last week introduced a new vision for future naval power, one based on faster development of unmanned, autonomous systems, vibrant partnerships with industry and academia and reimagined naval formations.

"I think this decade, the 2020s, will have special significance for our nation and our role in leading the world," Selby told a nationwide audience during the HACKtheMACHINE Unmanned event. "What can we do today that can deliver measurable results in two years, that leads to deployed capabilities at scale in five years, to fully realize that reimagined future?"

Small, Agile, Many

A critical important component of future naval success, he said, is incorporating advanced cyberphysical technologies found in the "small, the agile, and the many" – small unmanned, autonomous platforms that have the agility to be built and adapted quickly, in large numbers, and at far lower costs compared to larger platforms. These unmanned air, surface and subsurface vehicles will carry an array of sensors and modern payloads, and perform multiple missions.

"The small, the agile and the many have the strong potential to define the future in a world where the large and the complex are either too expensive to generate in mass, or potentially too vulnerable to put at risk," he said.

"We are talking about how to iterate at scale and at speed. How to take things that meet operational needs and making them part of the force structure, deploying them in novel naval formations" that will "confuse and confound the tasks our adversaries must consider."

One of the advantages of the small, agile and many platforms in this new formation is that Selby believes they can be built relatively inexpensively compared to existing force structure. This makes them more attritable in high-end conflict – in other words, if they are shot down or otherwise put out of action, American forces will have dozens, even thousands, of backups in place. Having large numbers of advanced but inexpensive platforms in the fleet to counter an adversary's expensive platforms could play an important role in deterring aggressive actions.

Selby gave his remarks during a keynote address at the HACKtheMACHINE Unmanned competition, held virtually Nov. 16-19. This event, which is expanding to multiple cities across the country, is a public-facing technology challenge aimed at accelerating discovery and team building between the

Department of the Navy, industry and academia.

The ultimate goal of such events, Selby said, is to create new ways of doing business for autonomous and software-based systems. Comparing this moment in history to the dawn of the industrial revolution, when technological advances drove massive change, he noted that today, “data is the new oil, and software is the new steel.”

Sponsored by ONR, in conjunction with Program Executive Office (PEO) C41, PEO Integrated Warfare Systems, PEO Unmanned and Small Combatants, the Navy’s Cybersecurity Office (PMW-130) and industry partners like Fathom5 and Booz Allen Hamilton, HACKtheMACHINE Unmanned is one of the ways ONR is working to support the Navy’s 2021 Unmanned Task Force and integrate unmanned and autonomous technology at scale.

A Strategic Hedge

Selby emphasized the importance of America’s current naval force structure needing a “strategic hedge.” He noted that in World War II, the Navy was primarily invested in battleships as the nucleus of combat power for any future conflict. However, the Navy and the nation had a “hedge” investment in aircraft carrier and submarine force structure. Ultimately the hedge proved crucial to victory – far different from the beginning of the war, when battleships were seen by many as the key.

The small, the agile and the many represent a viable hedge to support the large and the complex platforms that comprise the backbone of today’s force structure. Rapid development of unmanned, autonomous systems provides the technological drive to create a hedge option for the 21st century Navy and Marine Corps. Developing this strategic hedge at ONR is one of many ways the organization helps the Navy and Marine Corps adapt to potential futures.

Finally, the CNR stressed the importance of moving from the current requirements-driven acquisition process – a successful process for large platforms, but one not rooted in speed – to a "problem-driven" process, where the Naval Research Enterprise asks operators and commanders what problems they are facing, and rapidly creates solutions to solve their problems.

That approach has already begun. ONR provided dozens of unmanned platforms and sensors used in last April's Integrated Battle Problem 2021, which focused on a PACFLEET battle problem. In 2022, those efforts will continue, including partnering with SOUTHCOM to deliver new tools for drug interdiction efforts.