

# COMPACFLT Holds Change of Command Ceremony in Pearl Harbor



Adm. Stephen Koehler addresses the audience after becoming the commander, U.S. Pacific Fleet during the COMPACFLT change of command ceremony onboard Joint Base Pearl Harbor-Hickam, April 4. (U.S. Navy photo by Mass Communication Specialist 2nd Class Jeremy R. Boan)

From Commander, U.S. Pacific Fleet Public Affairs, Apr 4. 2024

Adm. Stephen Koehler assumed command of the U.S. Pacific Fleet (PACFLT) during a change of command ceremony on Joint Base Pearl Harbor-Hickam, April 4. He relieved Adm. Samuel Paparo, who took over as commander of PACFLT in May 2021.

Adm. John Aquilino, commander, U.S. Indo-Pacific Command, opened the ceremony by thanking Adm. Lisa Franchetti, chief of

naval operations, for sending her best leaders to U.S. Pacific Fleet.

“You are looking at the world’s greatest warfighters sitting behind me,” said Aquilino. “In the world’s most concerning theater, against our world’s most dangerous adversaries, what has been chosen to run this theater are our best warfighters. That is not by accident.”

Adm. Lisa Franchetti, chief of naval operations, presided over the ceremony. She welcomed Koehler and praised Paparo for his leadership during his time as the PACFLT commander.

“Sam, you understood that the most powerful tool we have – our true strategic advantage – comes from our strong relationships with our allies and partners,” said Franchetti. “And that our shared values and common interest bind us together, and put more ready players on the field – every single day. Sam, I cannot be more proud of the work that you’ve done as the Pacific Fleet commander, and I’m excited about what is yet to come as you head up the hill (to Camp Smith), and become the 27th commander of U.S. Indo-Pacific Command next month.”

Franchetti welcomed Koehler saying: “You know how to build strong teams to get after our vital mission here in the Indo-Pacific at this critical time in our nation’s history. There is no one more ready to lead this Fleet. I am absolutely confident that you are the right person at the right time to lead our Sailors in the Indo-Pacific. And I look forward to seeing all that this Fleet will accomplish on your watch.”

While under Paparo’s command, PACFLT qualified as a joint task force, established Task Force 504, a task force focused on combat sustainment; Fleet Information Warfare Command Pacific; expanded opportunities for deployed ship repair in India; and completed numerous joint and combined multi-lateral operations

across the region with allies and partners.

“These accomplishments and many more have demonstrated our capability and our will to our would-be adversaries. These accomplishments have deterred conflict and preserved the peace,” said Paparo.

He took a moment to address the Sailors, chief petty officers, civilians and officers across the Fleet, both at sea and ashore.

“The best part of my job has been watching this team in action,” Paparo said. “I appreciate all that you have done over the last three years. And as I utter these words, your efforts continue. Every day you continue building a more effective fighting force. I am honored to remain your teammate as I take up my next duty, and I am proud to turn over command to Adm. Stephen “Web” Koehler.”

Koehler comes to the historic Pearl Harbor headquarters from Washington, D.C., where he served as director for Strategy, Plans and Policy, J5, Joint Staff.

“I could not be more excited and honored to assume command of the finest fleet in the world, whose capabilities are second to none,” said Koehler. “The U.S. Pacific Fleet answers our nation’s call to compete with unity of purpose, without hesitation, and with a powerful and resolute force.”

Koehler is the 38th commander since the Fleet’s Pearl Harbor headquarters was established in February 1941. He commissioned through the Naval Reserve Officers Training Corps (NROTC) at University of Colorado at Boulder in 1986, and was designated a naval aviator in March 1989. He has flown over 3,900 hours in the F-14 Tomcat and F-18 E/F/G Super Hornet with 600 carrier landings.

“Success during competition will require a bias for action, constant drive for excellence, continued vigilance, and the ability to rapidly transition to seizing the initiative and holding it,” said Koehler. “Success will require teamwork with precise execution and mastery of the basics, and then stretching ourselves operationally and tactically as a team of teams. Success will require cooperation across the supporting elements of the Navy, collaboration across numbered fleets, joint integration, and teamwork with allies and partners.”

U.S. Pacific Fleet is the world’s largest fleet command with an area of operations that encompasses 100 million square miles, nearly half the Earth’s surface, from Antarctica to the Arctic Circle and from the West Coast of the United States into the Indian Ocean. The U.S. Pacific Fleet consists of approximately 200 ships and submarines, nearly 1,200 aircraft, and more than 130,000 Sailors and civilians.

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## **HII Completes Dry Dock Work for Aircraft Carrier USS John C. Stennis (CVN 74) Refueling and Complex Overhaul**



NEWPORT NEWS, Va., April 08, 2024 (GLOBE NEWSWIRE) – HII’s (NYSE: HII) Newport News Shipbuilding division has completed the dry dock portion of the refueling and complex overhaul (RCOH) of Nimitz-class aircraft carrier USS John C. Stennis (CVN 74).

Following the recent flooding of more than 100 million gallons of water into the dry dock, USS John C. Stennis was successfully moved to an outfitting berth at the shipyard, where the remainder of the RCOH work and testing will be completed.

“Witnessing Stennis leave the dry dock and return to the water is a testament to the hard work of our shipbuilders, the crew and our government partners,” said Rob Check, NNS vice president of in-service aircraft carrier programs. “We remain laser focused on the work ahead during this RCOH period and look forward to preparing this mighty aircraft carrier for the next half of its operational life.”

Photos accompanying this release are available at: <https://hii.com/news/hii-aircraft-carrier-uss-john-c-stennis-cvn-74-refueling-and-complex-overhaul-drydock/>.

During the dry dock phase of the RCOH, USS John C. Stennis received significant upgrades and began an extensive overhaul process, both inside and outside the ship. In addition to defueling and refueling its power plant, NNS shipbuilders preserved tanks and replaced thousands of valves, pumps and piping components. On the outside, they performed major structural updates to the island, mast and antenna tower; upgraded all aircraft launch and recovery equipment; painted the ship's hull, including sea chests and freeboard; restored the propeller shafts; and installed refurbished propellers and rudders.

During the next phase of RCOH, shipbuilders will complete the overhaul and installation of the ship's major components and test its electronics, combat and propulsion systems. This period will also focus on improving the ship's living areas, including crew living spaces, galleys and mess decks.

"Our focus remains steadfast to get our ship back into the fight and to foster the professional and personal development of our sailors," said Capt. J. Patrick Thompson III, the ship's commanding officer. "We look forward to continue working with our industry partners to complete remaining production and test work and redeliver Stennis back to the fleet."

USS John C. Stennis is the seventh Nimitz-class aircraft to undergo its RCOH – the mid-life refueling overhaul and maintenance availability that produces a recapitalized carrier capable of supporting current and future Navy requirements. Once the RCOH is complete, USS John C. Stennis will be equipped to operate in the fleet for the second half of her 50-year expected service life.

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# Naval Supply Systems Command introduces Naval Sustainment System- Supply 2.0



The guided-missile destroyer USS Arleigh Burke (DDG 51) transits through the Mediterranean Sea in 2023. NSS-Supply is helping meet fleet readiness goals using an agile framework driven by data analytics. [CREDIT: U.S. Navy | Mass Communication Specialist 2nd Class Omar Rubi](#)

By Kirk Engler and Melissa Olson

Naval Sustainment System-Supply (NSS-Supply) 2.0 is focused on delivering fleet outcomes and supply's contribution to fleet readiness, whereas NSS-Supply's original focus was to capture supply chain value.

Navy fleet readiness goals fall into three categories: Subsurface, Surface, and Aviation, allowing NAVSUP to focus on supply's contribution to meeting fleet readiness goals.

How? NSS-Supply uses the “Agile” framework driven by data analytics. NSS-Supply is currently analyzing data to see what supplies are keeping the Surface Warfare community from reaching their North Star readiness target of 75 mission capable ships. A good example is the targeting of on-board sparing for systems that have outdated spares modeling. Getting the right mix of spares on board increases readiness and improves endurance.

Simply stated, NSS-Supply 2.0 moves away from a monetized-value calculation to a readiness calculation directly linked to fleet readiness goals.

NSS-Supply is built on the CNO’s priorities of warfighting, warfighters, and the foundation that supports them. The essential element is the Agile approach which quickly assesses problem areas and rapidly deploys innovation into the E2E supply chain using the Get Real, Get Better mindset to deep-dive supply chain issues that accelerate the Navy’s warfighting advantage.

Initiatives are built from the Chief of Naval Operations, Navigation Plan Implementation Framework (NIF) priorities and objectives. Additionally, Performance-to-Plan (P2P) is inculcated in the NSS-Supply culture to drive baseline Get Real readiness performance and NSS-Supply is the Get Better engine that allows accountable commanders to implement world-class readiness solutions across the Navy’s E2E supply chain.

NSS-Supply has undertaken 33 initiatives since 2021. The following examples provide a few highlights:

- Achieved average RTAT reduction of 40% in aviation and 30% in maritime repairs.
- Established first Regional Maintenance Center reoccurring repair agreements to repair 104 parts for wholesale stocking.

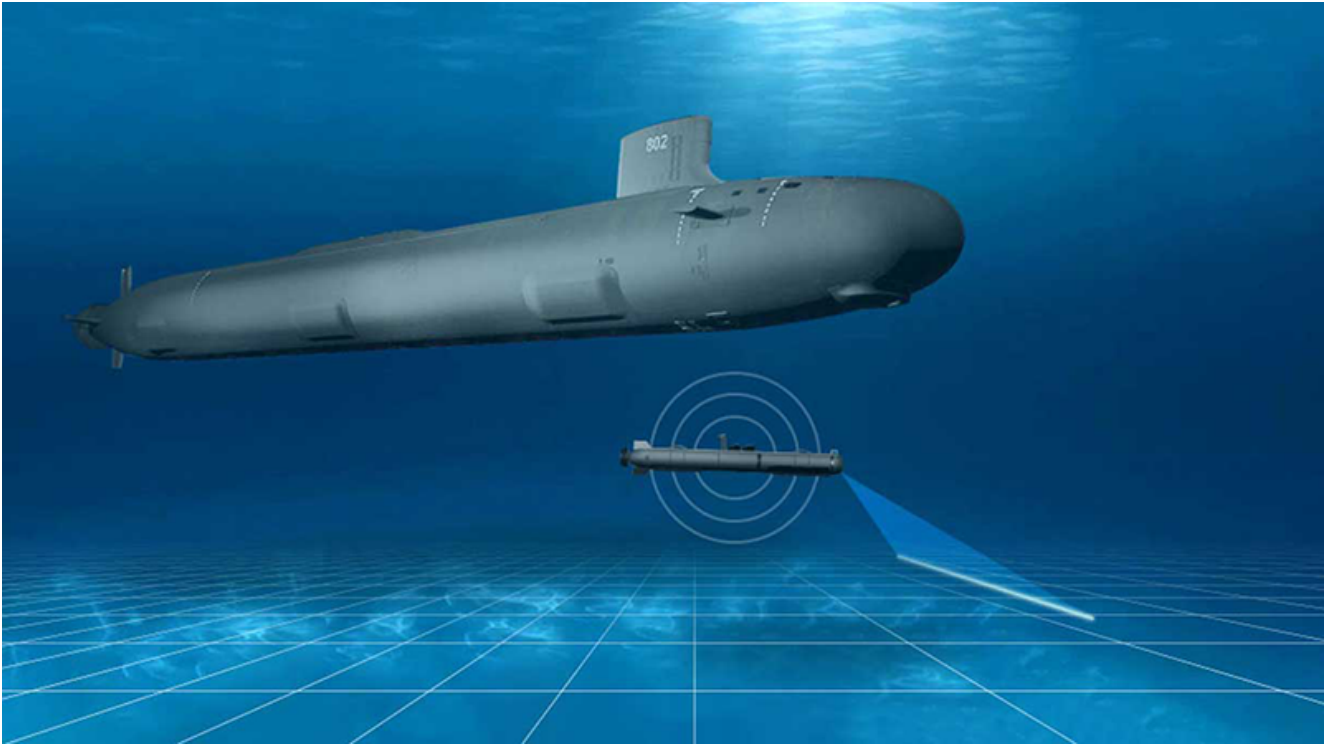
- Increased nuclear submarine capabilities through improved spares pool health and enhanced policies to increase critical submarine parts inventories.
- Engaged key suppliers to improve contract performance, expanded contract strategies, and improved inventory performance.
- Built and implemented E2E Naval Shipyard Supply Chain Management tool to significantly improve submarine material support.

NSS-Supply continues to tackle supply chain initiatives directly supporting the warfighter as a multi-year journey to transform the end-to-end supply chain and provide the sustainment outcome the fleet needs that responds to the VCNO directive that designated the Commander, Naval Supply Systems Command as the Navy's E2E Navy Supply Chain Integrator.

*CDR Kirk Engler is director of Naval Sustainment System – Supply, Naval Supply Systems Command and Melissa Olson is deputy director.*

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## **L3Harris Moves Ahead with Disruptive Capabilities**



**L3Harris successfully launched and recovered a Iver4 UUV from a submarine.** Photo Credit: L3Harris

L3Harris (Booth 1037) hopes to use its expertise in autonomy software, uncrewed surface vessels and uncrewed underwater systems to help the Navy counter the looming threat of China and get more systems into service.

The company has a lot of interest in what Jon Rambeau, president of L3Harris' Integrated Mission Systems segment, called "disruptive capabilities," which includes moving airborne ISR capabilities from military aircraft to business jets and focusing on passive sensing and targeting for autonomous surface and subsurface vehicles.

"In the maritime domain ... [we do] a lot of work around autonomous surface and subsurface vessels, and also a focus on passive sensing and targeting for the surface to allow the manned fleet to operate without having to light up their radars so often," Rambeau told Seapower in an interview. "We think that's a capability that can be deployed very rapidly, it's very mature and it's also very low cost."

The company also recently successfully deployed and recovered an uncrewed underwater vessel from a submarine's torpedo tube,

using one of its Iver4 vehicles.

“We were the first company to be able to demonstrate the capability to retrieve a UUV through a submarine torpedo tube while it was underway,” Rambeau said. “A pretty big accomplishment. Others had tried and failed and we were able to be successful on our first try, which was pretty impressive and not only that, but twice in one day, so pretty neat. That team just won our corporation’s top technology innovation award this year across the entire company.”

## **Replicator**

The U.S. Department of Defense last year announced the Replicator program, a still largely undefined effort to launch thousands of attritable, autonomous aerial and surface systems to help counter China’s growing fleet.

“That’s something we’re very interested in being a part of,” Rambeau said. “I think some of those decisions are still being made about who and how we’ll participate, but we know there’s an initiative, obviously, to drive the large-scale deployment of unmanned systems, and we think the work we do is right in the heart of that. We’ve deployed hundreds of small, undersea vessels, we’ve deployed hundreds of small surface vessels over a number of years, some in the commercial side, some in the military side of our business, and that’s where a lot of our concentration has been, small and medium vessels for subsurface and surface operations, and a lot of work particularly around the autonomy capability.”

L3Harris has an in-house autonomy development team, a capability Rambeau said is very mature, and had two autonomous ships deployed under an urgent operational needs statement with Task Force 59 out of Bahrain, which has been demonstrating uncrewed surface vessel capabilities. The submarine-launched UUV effort also stemmed from an urgent needs requirement.

“One of the areas that we continue to focus on is that we know the customer pull is there for these, I would say disruptive capabilities, we have the technology well matured,” Rambeau said. “I think the question is, how do we quickly get from proof of concept to prototyping to production as fast as possible? Initiatives like Replicator are designed to try to move that along, and we’re hopeful that there will be opportunities for us to be part of that.”

## **Passive Sensing**

Some of the passive sensing and targeting capabilities the company has developed for uncrewed systems can also be deployed on manned vessels, and L3Harris is planning to do some prototyping work with the Navy on that later this year.

“We’re still working through the details of how and where and when that will take place,” Rambeau said, “but we are looking to prove out the ability to sense and target an adversary without having to use a radar onboard a ship at all. That is our hope.”

Rambeau said he is seeing growing interest from the military in manned-unmanned teaming, a concept that has been around for years but which could gain new potency under a Replicator-type effort.

“I won’t speak for the Navy, but from my point of view I think that being able to link a small group of unmanned surface vessels with the manned fleet and allow those to be companions to get out ahead a little bit, do some reconnaissance, feed information back, there certainly are a lot of opportunities to employ the vessels in that way,” he said.

“... With the ability now to launch and recover an unmanned vessel from a submarine, that really gives an opportunity to extend the reach of the submarine fleet and also to provide greater survivability, because they may not have to go into harm’s way as deeply to gather data if they have an appendage

that can be set free and then recovered back with some information. Minehunting, that sort of thing.”

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## **Insitu Going Strong at 30, Focusing on Maritime Operations**



Insitu's FLARES system carries an Integrator SUAS aloft to launch it. Photo Credit: Insitu

By Richard R. Burgess, Senior Editor

NATIONAL HARBOR, Md. – Insitu, one of the most experienced companies in the small unmanned aerial systems (SUAS) market, will mark 30 years of operations in May.

The company (in parent company Boeing's Booth 1337), noted for its ISR (intelligence, surveillance, and reconnaissance) services and sales of modular SUAS such as ScanEagle and Integrator, especially for U.S. and allied operations in Afghanistan, is emphasizing maritime deployment of its SUAS with the shift of U.S. focus to the Indo-Pacific region, Diane Rose, president and CEO of Insitu, said in an interview with Seapower.



The Integrator UAS gets VTOL capability using the FLARES system. Photo Credit: Insitu

Insitu's SUAS have flown 175,000 sorties, accumulating 1.5 million flight hours, including 70,000 hours of maritime operations, Rose said. The SUAS are operated by or for 40 customers – to include 20 navies and coast guards – in 35 countries. The SUAS have been operated from 28 classes of naval vessels.

Insitu's SUAS have been provided to Ukraine via Foreign Military Sales and have been "very successful in that space," she said, and Insitu will "continue to support that effort."

Insitu continues to manufacture air vehicles and provide spare parts, system upgrades, and training to users. Modular sensors, provided by partner companies, can be swapped in the field to flexibly meet mission requirements.

“Our architecture allows us to integrate very quickly third-party sensors and payloads,” Rose said. “With the customer’s interests and missions in mind, we have a unique capability to offer solutions that support whatever the customer’s needs may be.”

Rose said there was a downtick in ISR services at land-based sites for the United States military since the end of the war in Afghanistan, but an uptick in international interest in Insitu’s products and services, especially focused on the maritime domain in the Indo-Pacific region, with an associated evolution in technology to satisfy emerging and changing customer needs.

The U.S. Navy and Coast Guard continue to use Insitu’s ISR services. The Navy also has procured Insitu SUAS. Navy units continue to use the RQ-21A Blackjack version of the Integrator, while Navy Special Warfare units use the RQ-27B version of the ScanEagle.

“Maritime operations are hard, and this is what 30 years of experience gives us,” Rose said. “Shipboard movement, shipboard radars and antennas, the EMI [electro-magnetic interference] environment, the harsh weather conditions, global logistics – how do you re-supply your systems, how do you meet the ships at the various ports?

“There’s a lot to supporting maritime operations, and I think that’s really why you see the success of our systems’ enduring,” she said, speaking of the long service of ScanEagle in the ever-evolving field of uncrewed aerial systems.

For customers who procure Insitu SUAS, the company provides training on how to operate the systems and also operates a

24/7 Operations Action Center, which provides customers engineering support and responses to trouble reports.

This year at the Navy League's Sea-Air-Space (SAS) Expo, Insitu will be highlighting its vertical takeoff capability in the FLARES (Flying Launch and Recovery System (FLARES) octocopter, which it introduced at the 2023 SAS. FLARES can carry an Integrator UAS aloft 500 feet and launch it on its mission, enabling the Integrator to maintain its range, endurance, and payload capacity. The octocopter alleviates the need for a launch rail, reducing the footprint of the system and making shipboard and expeditionary operation easier. The recovery method remains the same.

Rose said Insitu has one customer so far for FLARES that carries a ScanEagle aloft.



At Sea-Air-Space, Insitu will highlight its FLARES systems, which provides VTOL capability to fixed-wing UAS Photo Credit: Insitu

She said the 570-employee company is interested in growing its

technical talent but emphasizes lean and efficient operations in a highly competitive industry.

Insitu continues to press forward to address battlespace challenges, including SUAS operations in a GPS-denied environment and with kinetics. The company has conducted inert-drop flight tests from Group2/3 SUAS.

## Gaming to Win and Learn at Sea Air Space



The Center for Maritime Strategy “Gaming to Win” event is in its second year at Sea Air Space and offers a little for everyone within the wider wargaming community.

It features the presidents of the Naval Postgraduate and Naval War College and directors of wargaming from NWC and the Marine Corps University Krulak Center. It also highlights top-flight wargames and their designers who will invite participants to

play along, and then be part of a panel on the design and use of games.

The first panel on wargaming will Tuesday, April 9 from 2:45 to 3:45 p.m., followed by an interactive wargaming demonstration from 3:45 to 5:00 p.m. and a second panel from 5:00 to 5:45 p.m., all in the Cherry Blossom Ballroom.



Discussion at last year's inaugural wargaming eventDiscussion at last year's inaugural wargaming event. Photo Credit: Dan Goodrich

While the panel is called "Gaming to Win," that is really not what wargames actually do for military commanders and civilian leaders. They perform a vital role in testing assumptions that commanders might possess, as well as offering them the opportunity to explore multiple "what if" scenarios. The late Peter Perla, a famous wargamer, described them as "a dynamic representation of conflict or competition, in a synthetic environment in which people make decisions and respond to the consequences of those decisions." Wargames do not answer the question of which side will win, or what weapon system(s) are

most effective in war. War games build confidence or raise doubts in existing plans. They are a useful tool in evaluating plans but come with limitations that are not always apparent.

### **Limitations on Wargaming**

Some wargame results are interpreted as the “sure path to victory,” or the “inevitable road to defeat” depending on who reads the results and how they interpret them. Wargame results are sometimes seen as either confirming the rise of a specific weapon system or the condemnation of another to obsolescence. These are false interpretations of game results. First, wargames are only as “good” as their input data. That not only includes order of battle being correct, but also, when available, aspects of gaming that the Naval War College calls “the intangible aspects of military planning.” How “ready is any one opponent ship, aircraft, or submarine in terms of material readiness? Can that platform perform its intended mission as designed?



The board at last year's wargaming event. Photo Credit: Dan

Goodrich

What looks good on paper is not always what it appears. The Russian missile cruiser Moskva was generally rated by Cold War and 1990s-era wargames as able to sustain at least four hits from a medium-sized cruise missile like the U.S. Harpoon weapon and remain afloat. In the real world, the Moskva was sunk by two such weapons, with some reports suggesting the Russian crew immediately abandoned the stricken vessel and did not undertake damage control actions to save her.

Another intangible aspect of wargame design and conduct is the leadership and conduct of the Red Cell, the team of experts who simulate what the opposing forces do. This has in some cases been a past challenge. From the late 1940s to the late 1970s, U.S. Navy leaders believed the growing force of Soviet submarines had only one main purpose, and that was to attack NATO resupply routes from North America to Europe. Russian leaders like fleet commander Admiral Sergei Gorshkov proclaimed the Soviet navy would confront Western navies on the high seas. The large German submarine fleets of World Wars I and II were designed to break Allied supply routes across the Atlantic. Why else would the Soviets build such a force? Intelligence gathered from wiretaps on Soviet undersea communications cables in fact revealed the Soviet navy's main purpose for its submarines was defense of its ballistic missile submarine force and the protection of the Soviet Union from nuclear attack by Western naval forces. Soviet doctrine said the war would be over before the West could even consider reinforcing NATO by sea.

Getting all of these aspects of wargaming as accurate as possible from the start is essential to setting the stage for game results that can be used by commanders to evaluate plans and the systems to execute them in both peace and war. Wargaming is pursued with victory as the goal, but if it is not sourced with accurate information, it can be a futile exercise.

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# HII Responds to Post-COVID World with Flexibility, Supply Chain Support



Sailors man the rails during the commissioning ceremony for the Arleigh Burke-class Flight III guided-missile destroyer USS Jack H Lucas (DDG 125) in Tampa, Florida Oct. 7, 2023.

CREDIT: Department of Defense | EJ Hersom

Shipbuilder HII (Booth 1323) has embarked on a range of efforts to improve its workforce, bolster the supply chain and boost its capital investments, HII President and CEO Chris Kastner said in a briefing on the eve of Sea-Air-Space 2024.

The company saw as far back as 2015 there would be significant demand for ships, but couldn't anticipate a worldwide pandemic that affected supply chains and the workforce, followed by

rampant inflation, Kastner said.

“There’s really unprecedented demand in shipbuilding right now that we saw coming, and it has arrived,” he said. “With Navy leadership ... the industry has been getting after this since COVID started.”

The company and its subsidiaries have been outsourcing some of the work they used to do, which helps bolster the supply chain, Kastner said. Since 2020, HII has helped create more than 200 new suppliers and outsourced 3.6 million hours of work.

It has also spent \$450 million on workforce training and is providing new technology tools at its workforce, including artificial intelligence to help make its practices more efficient. “If we can use AI to improve our processes, we’re going to do that,” Kastner said.

Issues with shipbuilding came to the fore just this past week, as the preliminary results of a Navy shipbuilding study showed major programs are years behind schedule, including the first Columbia-class submarine and the future USS Enterprise aircraft carrier.

Advanced procurement is critical to avoiding such issues, Kastner said, one reason the shipbuilder has been pushing for a two-carrier buy for CVNs 82 and 83, similar with what was done for the future Enterprise (CVN 80) and Doris Miller (CVN 81), which were procured as a two-ship buy.

“We would like to get started in [20]26, potentially in 25 on the critical suppliers, in regard to 82,” Kastner said. “There’s no doubt that a two-ship buy with 80 and 81 really reduced the risk of 81. The risk we had on 80 was alleviated with 81.”

As for the future USS District of Columbia, the first boat in the Columbia class, Kastner said it has a “very robust” risk

management effort, “but you’re going to have first-in-class issues. And couple that with a lot of green labor, that can yield to workmanship issues, and efficiency issues, and you get potential schedule issues. It’s a first-of-class ship, and you’re rebuilding a workforce coming out of COVID.”

He noted that two shipbuilding programs involving HII are doing well, the LPD amphibious transport dock and DDG Flight III.

“What are the characteristics of those programs? Stable designs – and when the design changed it was very thoughtfully implemented, I’m talking about DDG Flight III – on time advanced procurement. Consistent workflow. All of those ... and a really good core group of shipbuilders,” Kastner said.

### **Workforce Adjustments**

“It’s a fact of life that you have a less experienced workforce than you had before, across the board. There’s significant loss of skill after covid. That’s been broadly understood, and it’s been a cross section of our talent base,” Kastner said.

That’s where HII is trying new things, including providing more flexibility for shipbuilders when they come in, including more time off early in the process. The company also has more programs to help their new hires enter the shipbuilding workforce.

“We used to just train them and send them out to a crew. Now, we train them, we bring their foreman in the training center and we put them out as a team. So, they have a framework and a cultural that they’re developing with their team, so they feel like they’re not alone when they go out into the shipyard,” he said.

HII is also recruiting from areas where people are likely to stay, according to data analytics. It is also using targeting

incentives, where good performance and attendance lead to a boost in pay.

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# STEM Expo Brightens National Harbor with Exciting Science Demonstrations



The STEM Expo brought 5th through 12<sup>th</sup> grade students face to face with exciting science concepts on Sunday, April 7, filling the Cherry Blossom ballroom with laughter and gasps of wonder.

The event featured interactive workshops, hands-on demonstrations, STEM career information and just plain fun,

including the famous nitrogen ice cream booth and a visit from Slapshot, the feathered mascot for the Washington Capitals hockey team.

While the event was fun, there was a serious purpose behind it, according to representatives from HII, the shipbuilder that was the Champion Sponsor for the event, alongside sponsors CACI and Booz Allen.

### **VR and 3D Printing**

HII gave attendees a slice of real-life modern shipbuilding, demonstrating the use of virtual reality for ship inspections and welding and also showcasing 3D printing, or additive manufacturing, which is being used to create some components in the real world.

“It’s a safe space to fail, is what it really is. They learn these objectives here and don’t have any real-world consequences like injuries or anything,” said Grant Ronquillo, a software engineer at HII’s Newport News Shipbuilding.

It’s also the kind of training these students could expect to get if they pursued a career in shipbuilding.

“We’re working with our training programs to get this implemented as part of the standard training within Newport News Shipbuilding and across HII,” Ronquillo said, while behind him a STEM Expo visitor made her way through a simulated 3D room.

Visitors to HII’s booth were also shown a virtual welding booth and a 3D printer. The VR welding demonstration allowed students to take a turn, receive instruction on how to do better, and then try again, said Brian Treat, the lead general foreman at Newport News Shipbuilding.

“They think it’s the real thing,” he said, but it removes all the risk. “What’s key here is removing all the risk of real-

life welding, allowing them to feature the same attributes and talk through it before somebody would go do it in real life.” Again, it’s how welders are actually being trained.

The additive manufacturing is another technology that some kids are already familiar with, said Perry Haymon, the chief technology engineer at HII’s Ingalls Shipbuilding.

“We brought this today to demonstrate to the kids how 3D parts are printed,” Haymon said. It’s a technology that’s making its way into shipyards.

“We do polymer as well as metallic,” he said. “It’s a great technology, it’s a good thing to get into, for the kids to learn, because they like to draw, they like to create, so by doing solid models, now they can actually take that and put it into a printer and actually see what they’ve created.”

## **Engaging Students**

STEM is important because “it’s such a broad field and it can be used in so many ways,” said Notashia Thomas, a program manager at STEM sponsor CACI.

“When students come to this particular expo, they are exposed to just a myriad of options, and I think it really excites them. I absolutely see the children getting engaged. At our table we’ve been doing design principles. They try a design, they try it again, they try it again until they see it work, and that’s what STEM is all about; the problem solving, the persistence that’s involved. It’s just great to see them engaged.”

The Navy sees the value of STEM as well, contributing several displays and demonstrations for the expo, including in robotics and medicine.

“What is the value of STEM? The importance of STEM in the Navy cannot be overstated,” said Commander Shannyn Fowler,

commanding officer of Navy Talent Acquisition Group Richmond. "It's the backbone of how we operate, in terms of our engineering programs, in terms of our aviation programs, information technology, cyber warfare, explosive ordnance disposal, and so many more. It's what keeps our Navy afloat, it's what keeps our aircraft in the sky, and it's what keeps our enemies afraid of us."

Fowler said she was pleasantly surprised by the enthusiasm she saw in the students coming through the expo.

"The enthusiasm is beyond measure," Fowler said. "The excitement of young people between the ages of 5<sup>th</sup> grade and 12<sup>th</sup> grade and in STEM programs is beyond my expectation walking in on this."

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## **U.S. 4th Fleet Announces Southern Seas 2024 Deployment**



ATLANTIC OCEAN (Feb. 26, 2024) The Arleigh Burke-class guided-missile destroyer USS Porter (DDG 78) conducts a replenishment-at-sea with the Nimitz-class aircraft carrier USS George Washington (CVN 73) while underway in the Atlantic Ocean, Feb. 26, 2024. (USN photo by MC2 Nicholas A. Russell)  
From U.S. 4th Fleet, 5 April 2024

MAYPORT, Fla. - The U.S. Navy aircraft carrier USS George Washington (CVN 73) will deploy to the U.S. Southern Command area of operations over the next few months as part of U.S. Naval Forces Southern Command/U.S. 4th Fleet's Southern Seas 2024 deployment.

George Washington, Arleigh Burke-class guided-missile destroyer, USS Porter (DDG 78), and Henry J. Kaiser-class replenishment oiler USNS John Lenthall (T-AO-189) are scheduled to conduct passing exercises and operations at sea with partner nation maritime forces as the ships circumnavigate the continent of South America. Southern Seas 2024 will feature subject matter expert exchanges and provide the opportunity for distinguished visitors from partner

nations to see aircraft carrier operations up close. Engagements are planned with Argentina, Brazil, Chile, Colombia, Ecuador, Peru, and Uruguay, with port visits planned for Brazil, Chile, and Peru.

“Southern Seas 2024 will provide the opportunity to improve interoperability and increase proficiency with partner nation maritime forces,” said Rear Adm. Jim Aiken, Commander U.S. Naval Forces Southern Command/U.S. 4th Fleet. “Deployments like Southern Seas strengthen maritime partnerships and build trust with our partners in the region.”

“We look forward to building readiness and advancing training as we engage with our friends and partners in South America,” said Rear Adm. Robert Westendorff, Commander, Carrier Strike Group 10. “We also look forward to visiting several spectacular locations in South America, as U.S. Navy Sailors don’t often get to see this part of the world.”

New for Southern Seas 2024, an embarked international staff of approximately two dozen officers from 11 partner nations will serve aboard USS George Washington. This international staff will receive instruction from U.S. Naval War College professors and will work alongside embarked Destroyer Squadron 40 personnel to conduct detailed operational planning in support of operations at sea. Countries planning to participate in this embarked international staff include Argentina, Brazil, Canada, Chile, Colombia, Ecuador, the Netherlands, Paraguay, Peru, Trinidad and Tobago, United Kingdom, and the United States.

Southern Seas 2024 marks the 10th mission to the region since 2007 and the third time involving USS George Washington. The aircraft carrier also conducted Southern Seas 2008 and Southern Seas 2015. Like the previous deployments, Southern Seas 2024 will foster goodwill, strengthen maritime partnerships, counter threats, and build our team.

Aircraft carrier USS George Washington is one of the centerpieces of America's Naval forces – the most adaptable and survivable airfields in the world. On any given day, Sailors aboard an aircraft carrier and its air wing come to the fight trained and equipped across a full range of missions. They are ready to control the sea, conduct strikes, and maneuver across the electromagnetic spectrum and cyberspace. No other naval force fields a commensurate range and depth of combat capabilities.

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**VMFA-542 achieves full operational capability as U.S. Marine Corps' first F-35 operational squadron on the East Coast**



**From Communication Strategy and Operations Office,**

**2nd Marine Aircraft Wing**

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MARINE CORPS AIR STATION CHERRY POINT, N.C. – Marine Fighter Attack Squadron (VMFA) 542, 2nd Marine Aircraft Wing (MAW), achieved full operational capability, Wednesday, as the U.S. Marine Corps' first East Coast F-35 Lightning II Joint Strike Fighter squadron in the Fleet Marine Force.

Full operational capability means that VMFA-542 is ready for full operations and completed its transition from a legacy tactical-aircraft platform to the F-35B Lightning II. The squadron is now capable and eligible to deploy globally in support of planned or contingency operations. As 2nd MAW's first operational fifth-generation fighter-attack squadron, they can fulfill their mission essential tasks (METs) in support of the Marine Air-Ground Task Force (MAGTF). These METs include close-air support, strike, strike coordination

and reconnaissance, offensive anti-air warfare, suppression of enemy air defenses, electronic attack, electronic support, and active air defense.

“Achieving full operational capability is a testament to the exceptional hard work and professionalism from the Marines of VMFA-542,” said Lt. Col. Brian Hansell, commanding officer of VMFA-542. “This milestone marks the addition of a battle-ready aviation squadron with unmatched combat lethality and survivability to the Marine Expeditionary Force. We are ready and able to conduct missions globally in support of the MAGTF as we continue to prepare for the next challenge.”

The F-35 is a fifth-generation fighter jet with advanced stealth, agility and maneuverability, sensor and information fusion, and provides the pilot with real-time access to battlespace information. It is designed to meet an advanced threat while improving lethality, survivability, and supportability. The F-35B Lightning II is the short-takeoff and vertical-landing F-35 variant. This capability allows the aircraft to operate from amphibious assault ships and expeditionary airstrips less than 2,000 feet long.

VMFA-542 began its transition to the F-35B Lightning II in December 2022 and received its first F-35B on May 31, 2023. The squadron then achieved initial operational capability, Feb. 5, before receiving its 10th aircraft, March 25, and achieving full operational capability, April 3.

The squadron also recently participated in Exercise Nordic Response 24 in Norway, which was a two-week exercise with NATO allies and partners demonstrating military prowess across land, maritime, and aviation domains against challenging arctic and mountainous conditions. During the exercise, VMFA-542 conducted a distributed-aviation-operations event at Kallax Air Base in Lulea, Sweden, March 13, marking the first time a U.S. F-35 Lightning II aircraft landed in Sweden, the first time any F-35 operated at Kallax Air Base, and one of

the first training events conducted by Sweden as a NATO member.

VMFA-542 is a subordinate unit of 2nd MAW, the aviation combat element of II Marine Expeditionary Force.