

HASC Members Prepare to Dive into Navy Budget



Members of the House Armed Services Committee seem prepared to overturn some Navy decisions as outlined in the fiscal 2025 budget request, including retiring some ships early and funding only one Virginia-class submarine.

“What has happened is, as the top line is increased, the game has become, ‘we’ll add a bunch of the stuff that we know Congress won’t add, and we’ll take out stuff that we know Congress is going to put back in.’ And that will be a net gain. That game has to stop,” said Rep. Wittman (R-Virginia), chair of the House Subcommittee on Tactical Air and Land Forces.

As for the Virginia-class sub, Wittman said the Navy position that the program is behind anyway and the shipbuilders can’t keep up doesn’t make sense.

“It really is about demand signal and, and you can’t have it both ways. You can’t say, well, the reason we are reducing the submarine request is because we don’t think the industrial

base can do it. That's wrong," he said. "The industrial base can do it if you send them the demand signal. We're at about 1.6, I think, submarines today annually, we need to be at 2.3. The way we get there is to send the proper demand signal."

Rep. Joe Courtney (D-Connecticut), the ranking member on the Subcommittee on Seapower and Projection Forces, said a defense industry report issued in December highlighted the need for procurement stability.

"Procurement stability was the watchword throughout that report," he said. "And, we're sacrificing that. I mean, literally, within weeks" of the report.

Naval aviation is also an issue, as the Navy has an air attack shortfall, noted moderator Bryan Clark, a senior fellow at the Hudson Institute.

"There are some, thanks to Congress, some Super Hornets being procured in this year's appropriations," he said. "But there doesn't seem to be a clear path ahead for the carrier air wing."

This drew an animated response from Wittman, who said there doesn't seem to be a sense of urgency about the situation.

"The challenge now is to make sure we get enough F-35s in production to be able to sustain these carrier wings," and to make sure there's not a "valley" as the Super Hornets retire, "where now all of a sudden you have aircraft carriers sitting at the dock because there's no aircraft on board. That means we have to get those lines to intersect. That's more of a challenge than what a lot of folks think because the tactical air component of that is about maintaining production."

The aircraft also need technical refresh three, an upgraded software capability that contractor Lockheed Martin warned will be delayed.

“I mean, there needs to be an all hands on deck mentality to go, no, that’s not acceptable. We need these aircraft and now we’re going to have hundreds of aircraft sitting on the tarmac waiting to get a software upgrade, right?”

Wittman continued, “F-35 is it, right? That’s all we have, right? Let’s get our fanny in gear and get this thing going and get it on the decks of the aircraft carriers, get it in the hands of our pilots in the Air Force. Get our fanny in gear. I mean, this is it. I hate to get fired up about it, but I’m fired up about it because this is the future of tactile air for this nation. Get our fanny in gear,” he said, slapping the arms of his chair for emphasis.

Workforce Woes

The panel, which included Reps. Donald Norcross (D-New Jersey), Jen Kiggans (R-Virginia) and Ronny Jackson (R-Texas), also discussed the workforce issues plaguing the defense industry.

Kiggans, a former Navy helicopter pilot, said she sat on a HASC task force looking at recruitment and retention and what rose to the top were several issues: Compensation, housing and child care.

“That 5.2% pay raise that we just gave our servicemen and women in the appropriations bills that were passed a couple weeks ago, that’s a good starting place, but there’s still more work to do,” Kiggans said.

As for housing, she said college dorms are better than the places junior enlisted Sailors and Marines are asked to live. “We have to do better for our junior Soldiers, Sailors and Airmen and Marines to be able to expect them to want to do the job that we ask,” she said.

On the pay issue, Wittman said, “this 5.2% increase this year was great, but remember, the lower you are on the salary

scale, the percentage is not as quite as much in your paycheck. Take for example, if you come into our services, if you are a private in the Army, the Marine Corps, third-class Seamen, third-class Airman, your starting salary is \$23,000 a year. That's 11 dollars and 50 cents an hour asking you to do the most dangerous work of the nation, putting your life on the line. And guess what? You go to Chick-fil-A and serve chicken sandwiches and make more money in a much, much less challenging or dangerous environment. We have got to fix the junior enlisted salary differential."

Government, Industry Must Meet in 'Common Place of Excellence,' Del Toro Says



Industry and government alike must modernize their processes

and up their game to overcome shipbuilding challenges, Secretary of the Navy Carlos Del Toro said April 9 at the lunch session at Sea-Air-Space, including by working with shipbuilding partners overseas.

Del Toro began the speech with a bit of levity, bringing the U.S. Marine Corps mascot Chesty the bulldog onto the stage, before describing the challenges that face the nation, from Houthi rebel attacks in the Red Sea to the state of the nation's shipbuilding facilities and workforce.

"You have to understand, we, the nation, abandoned the shipbuilding industry and making the necessary investments in around the early 1980s," Del Toro said. "Because we thought that somehow the private sector would just take care of itself. And some ways it did. China moved in with cheap labor and labor practices that weren't fair. In fact, the United States is considering suing China for some of those unfair practices."

Incentives weren't made, and after the Cold War the nation lost many of its shipbuilders, he said, adding, "thank God" the nation still has the shipbuilders it does.

"But the fact is, we need more capacity if we want to grow a Navy fleet. Let me be clear, we need a bigger Navy fleet to meet the challenges of the future. We need to have the industry to be able to grow that capacity. So, this is a whole of government discussion that we've initiated in the Navy across the government and there's a lot of interest that's growing in many different places throughout government. And I think that you'll see this actually continue," he said.

Del Toro cited a recent visit to South Korea, where he saw what could be the future.

"Right now, we build the most capable warships in the world in shipyards that are sometimes decades behind the global technological standard. This is an inefficient approach

requiring far too much time and taxpayer dollars. And it's certainly an approach that is only inadequate to pace our 21st century competitors," he said.

Japan and Korea, he noted, build high-quality ships "for a fraction of the cost that we do. When my team and I went to South Korea, we were floored at the level of digitization and real-time monitoring of shipbuilding progress with readily available information down to the individual pieces of stock materials. Their top executives can tell us to the day when ships would actually be delivered," he said.

"It's an ethos of commitment to constant improvement that is the foundation of their reputation, consistently delivering on time and on budget, even during COVID. The daunting challenges that we face are also an opportunity, a great opportunity to partner with a greater number of shipbuilders here in the U.S. and with our closest allies abroad. We have an opportunity to attract the most advanced shipbuilders in the world to work with our first-rate ship builders of the world ... and invest in commercial shipyards here at home," Del Toro said. "This will allow us to modernize and expand our shipbuilding industrial capacity, creating good paying new-collar American jobs that come with a healthier and more competitive shipbuilding workforce."

Previous decades of investment are what have enabled the Navy to fight off the Houthi rebels as effectively as it has, Del Toro said.

"Ladies and gentlemen, sometimes I think the American people think that this is somehow commonplace to do this, as our CNO said the other day. There is absolutely nothing commonplace about this. Our United States Navy has been attacked. We have conducted strikes like we haven't seen in many ways since World War II."

He said investments in training have led to the successful

engagements, along with the investments in the Aegis Combat System and the SPY-1 radar

“Those investments are the reason why our Sailors and Marines have been able to combat this with proficiency that they have demonstrated to win the fight of the future,” he said.

The services must make similar investments today in robotics and other technologies. Del Toro noted the service has newly introduced the robotics warfare specialist rating. The RW “will be the subject matter expert for computer vision, mission, autonomy, navigation, autonomy, data systems, artificial intelligence and machine learning,” he said, calling it a “significant milestone in our journey towards achieving a truly hybrid fleet.”

And, he said again, the nation needs to investment in shipbuilding.

“The findings of the 45-day comprehensive shipbuilding review have underscored too many of our industrial partners are behind schedule and over budget on our highest priority programs. Let’s be clear, I want American industry to thrive, as a business owner for almost two decades. I understand your perspective. I’m pushing our shipbuilding industry to invest in itself to get better, be technological leaders and to once again deliver platforms on time and on budget. We must deliver for the American people because it’s our line of work. We don’t get to make excuses,” he said.

“Of course, there’s work for us to do on our end and the government as well. I’m determined to address the longstanding challenges in our procurement processes that cause industry heartburn as they tried to do business with us. And there are many that we have to work through. I expect our leaders in the government to foster culture of excellence and accountability across our own acquisition workforce.

“The point is this,” Del Toro said. “Just as our country needs

you and industry to be at the top of your game, I'm determined to ensure that we and the Department of the Navy are also on the top of our game. We must meet industry in a common place of excellence."

AUKUS Program Marks 'Greatest Industrial Undertaking' for Australia



Then-CNO Admiral Mike Gilday, Royal Navy First Sea Lord and Chief of Naval Staff Adm. Sir Ben Key, and Chief of the Royal Australian Navy Vice Adm. Mark Hammond, tour the Virginia-class fast-attack submarine USS Missouri following the AUKUS bilateral announcement in San Diego, Calif, March 13, 2023.

CREDIT: U.S. Navy | Commander Courtney Hillson

The AUKUS program, the multination effort to provide Australia with nuclear-powered submarines, will kick-start that country's ability to build nuclear subs, an Australian minister said in a panel discussion at Sea-Air-Space on April 8.

Pat Conroy, Australia's minister for defense industry and minister for international development and the Pacific, said the effort will be a challenge but it was a logical choice to select a partnership of Australian Submarine Corp. and BAE Systems to build the subs, as ASC built Australia's diesel-electric submarines and BAE builds the United Kingdom's Astute and Dreadnought-class submarines.

"For them to form a joint venture for us was the right model," Conroy said. He said it will be a "step up" for them to move to nuclear standards, but they've had a long partnership with General Dynamics Electric Boat in the United States.

"Electric Boat was instrument in fixing some of the challenges that we encountered earlier in the Collins class," Conroy said. "So, we're confident we'll put the ecosystem in and we're investing around \$30 billion Australia to increase our industrial place uplift that will really underpin what is the greatest industrial undertaking our country's ever attempted."

Moderator Megan Eckstein of Defense News noted the United States and United Kingdom are talking about building up the nuclear industrial base, but for Australia, "you're starting from scratch."

Conroy replied, "it's an incredible effort, and lots of progress has been made from legislative rules to establishing a nuclear regulatory authority to starting to train our workers, our industry in the nuclear mindset. It has been a challenge, but also a great opportunity to include Australian

companies from the ground floor.”

Australia is mounting a full national mobilization, he said, including funding 4,000 additional permanent university places in STEM subjects to grow the workforce.

“We think we need 20,000 workers. We’ve got Royal Australian Navy sailors working on U.S. submarine tenders in Guam right now, and a hundred ASC employees will be working for harbor sustainment next year,” he said.

“So, we’re starting that training pipeline. That \$30 billion dollars will be a massive investment. And while it’s a challenge, there’s also opportunities,” he said.

“I’ve had the privilege of going through Barrow-in-Furness in the U.K. [home of BAE Systems Submarines] and the Groton, Connecticut yard here [home of Electric Boat] and they’ve got tremendous expertise built up over a century. But they’ve also got the challenges of that, of being built around towns like in Barrow-in-Furness. You’ve got terrace houses next to assembly halls because the town and a shipyard being built up together. Having a brownfield site where we can build with the best equipment, with lots of open space, will really allow us to maximize efficiencies and learnings from our oldest partners.”

CMS Breakfast: Pursuing Ways to Strengthen the Workforce,

Boost Readiness



Government and industry need to work together to solve the problems of shipbuilding schedules, workforce retention and getting deployable technology into the hands of warfighters at scale, speakers said at the Center for Maritime Strategy breakfast on April 9.

“Is it time to call for the Defense Production Act?” asked Admiral James Foggo, the dean of CMS and panel moderator, noting the number of shipyards have declined over the decades from 55 to just six today.

“It’s about setting conditions,” said Nickolas Guertin, the Navy’s relatively new assistant secretary for research, development and acquisition, noting the industry saw the need to ramp up shipbuilding in the 1930s, providing critical capability when World War II began. “Setting conditions is part of what I can do.”

Guertin said defense officials and industry need to stop thinking of themselves as carrier people or submarine people, “but as delivering game-changing capability across the tyranny of distance.”

He said government and industry need to look at the workforce as national strategic assets and create environments where they want to stay in an industry adversely affected by COVID.

“Their happiness at work is a primary task for industry ... we are bleeding people on the waterfront and we need to turn that around,” he said.

Admiral Daryl Caudle, commander of Fleet Forces Command, said it has become obvious to Chief of Naval Operations Admiral Lisa Franchetti that the Navy she has inherited “will not fundamentally change in size. It just will not. We have a responsibility to wring out every ounce of readiness we can.”

The Navy needs to innovate on force generation, defining what combat surge readiness looks like, and coupling revolutionary technology like artificial intelligence and machine learning with actual problems they can help solve, “so we can actually apply [them] where those technologies need to land,” he said.

It would also be helpful to give industry clear demand signals through clear requirements and multi-year procurements, Caudle said, and the service must turn concepts of operations into concepts of deployment. “How do I get this into the theater?”

DIU Evolution

That is one of the jobs of DIU, the Defense Innovation Unit directed by Doug Beck, recruited by the late secretary of defense Ash Carter, who Beck said was prescient about the direction industry was going and realized “we must leverage the incredible technology in our commercial tech sector,” Beck said.

“What he saw was that in so many areas of technology – artificial intelligence, autonomy, biotech, space, cyber – those areas of technology are going faster in order to meet the relentless demands of billions of consumers around the world,” much faster than “they possibly could in our bespoke only” defense market.

The nation is now at a tipping point, he said, where the president, secretary of defense, commercial tech sector and Congress all “get it” and need to move that technology to the field. DIU’s first iteration was building a bridge to the tech sector, version 2.0 was proving that commercial technology could help solve military problems and the latest version, call it DIU 3.0, is aimed applying technology “with strategic effect,” and doing so at scale.

One such effort is Replicator, a Department of Defense effort to field thousands of attritable, autonomous, uncrewed systems to counter China’s growing naval capability. The initial effort is about creating the capability and then doing that “over and over again,” Beck said. “We are on track for both of those objectives.”

He said he couldn’t talk about actual systems that are part of the effort, but said tranche 1 is “off to the races” and they are working on tranche 2, with a deadline of August 2025.

Columbia Status

Matthew Sermon, the executive director, PEO Strategic Submarines, addressed the Columbia-class submarine program, identified as being well behind schedule, according to a Navy shipbuilding review.

“Columbia is becoming a ship,” with the lead ship is under construction, stable requirements and a mature design, he said. However, it has experienced “lead ship challenges,” which he said could be expected in the first ship designed entirely in a 3D model.

“We’re not going to surrender that lead ship schedule,” he said, and the program is moving to match the production cadence required by the Navy.

Speaking of innovative technology, he said additive manufacturing is entering the workforce, although it may not be as widely distributed as previously thought.

“We have narrowed that down to six critical materials” and the related parts, he said. “We’re going to prove it out, we’re going to destructively test it ... we’re going to get it right.”

Future Challenges May Involve Rethinking How the U.S. Fights, Speakers Say



Amiral James Kilby, the Vice Chief of Naval Operations, speaks at the luncheon panel on Monday.

The United States is facing a variety of challenges, from Houthi rebels in the Red Sea to the People's Republic of China, but the preferred American way of fighting – massive overmatch – may not be tenable for the future, two panelists said during the luncheon event at the opening day of Sea-Air-Space.

China is investing in its military faster than the U.S. is, and the new U.S. defense budget is a 1% increase in the top line, which amounts to a decrease with inflation, said retired Admiral James "Sandy" Winnefeld, chair of the President's Intelligence Committee.

"Even if we could build the ships that we wanted to build, we would have trouble maintaining them all," he said. "And then manning is a challenge for us. So, it's entirely possible that the means that we want to apply to this problem ... are not going to be there."

What the nation may need to do is adopt a “whole of nation approach, not just a military-on-military approach, which involves diplomacy, economics, information, and of course the military,” he said.

Vice Chief of Naval Operations Admiral James Kilby said one way forward is with disruptive technology, the sort being developed by the Disruptive Capabilities Office, the group set up last fall by Secretary of the Navy Carlos Del Toro to more quickly move technology to the field.

He wouldn't go into specifics of what the office is working on, but it's intended to look at a broad swatch of technology and see what can be tested and moved rapidly to the warfighter.

“The Disruptive Capabilities Office is meant to look across the whole DoD spectrum and understand what can be brought to bear quickly and to put that together in a test environment, test it, and have some confidence in it before we go after it,” he said.

“... That is different behavior than how we're used to doing it, and it's basically capability focused,” he said. It builds on the work of Task Force 59, which deployed maritime unmanned systems, and is aimed at ways to “produce some capability now versus the perfect in future,” he said.

Retention is Good but Workforce Challenges Remain,

Service Chiefs Say



Navy CNO Admiral Lisa Franchetti speaks at the opening session of Sea-Air-Space 2024

Retention in the Navy and Marine Corps is going well, but recruitment remains a challenge across the services, including the Maritime Administration, and the services must set priorities in a time of great challenges and tight budgets, sea service chiefs said in the kickoff keynote panel of Sea-Air-Space 2024.

Undersecretary of the Navy Erik Raven, who introduced the panel, asked what is needed to continue U.S. dominance. "We need budgets to support our strategy, with people and readiness coming first," he said.

He noted the fiscal 2025 Navy budget request involves “some tough choices, putting quality of service and readiness at the top of the priority list means other program must either must make do or take risks.”

But the proposed budget “boldly advances our undersea capabilities for both U.S. and AUKUS demands, solidifies our commitment to 31 amphibious ships, and advances the landing ship medium into production,” he said.

The panelists then took up the issue of budgets and the challenges facing the services. Chief of Naval Operations Admiral Lisa Franchetti said the service has only a .7% increase in its budget in the fiscal 2025 request, forcing it to set priorities.

Number one is the Columbia-class submarine program, next is near-term readiness in “our forces and our people,” and next is working with industry partners to make that happen.

“You can see the demand signal: 88 ships under contract, 66 under construction ... we know we need a larger Navy, every study since 2016 has shown that,” she said. “I think the most effective way to work on that right now is invest in our industrial base, invest in the workforce, invest alongside our industry partners in the infrastructure necessary to really set the conditions to speed up the production and the throughput of the ships and submarines that we need to put more players on the field.”



General Chris Mahoney, the assistant commandant of the Marine Corps.

General Chris Mahoney, the assistant commandant of the Marine Corps, said the fiscal '25 budget funds the LPDs, LHAs and LSMs the service needs, so “for what allows us to be ready, the 25 program right now is looking very strong.”

Admiral Linda Fagan, commandant of the Coast Guard, said “demand for the Coast Guard is deafening and it’s worldwide,” from dealing with the aftermath of the collapsed bridge in Baltimore to working with small nations that need the presence of cutters to help defend their interests.

She noted there is great Coast Guard demand for new ships as well.

“We, too, are in the largest acquisition that we’ve had since

World War II. We compete for the same industrial base space, both new construction and repair with the Navy. And it's critical for the nation that we've got that kind of reliable access and commitment to the new ship capacity and then repair capacity and maintenance capacity for the ships that are operating."

The Maritime Administration, too, is building new ships, albeit on a much smaller scale, said MARAD Administrator Ann Phillips. Its new builds, five new training ships, are for the Merchant Marine academies.



Admiral Linda Fagan, commandant of the U.S. Coast Guard.

"We thank Congress for the funding to be able to build these vessels, but when you have a 100% design, when you have firm

fixed-price contracts, when you have by law a very small change order budget, and you have commercial best practices being applied, you are able to move through this vessel construction and vessel procurement,” Phillips said. “We’re on budget. We’re nearly on time.”

Retention and Recruitment

Of course, having ships is one thing, but the services must be able to crew them and maintain them, which are challenges of their own.

“I’m happy to say that retention is very good in the Navy right now in almost all of our fields. And so, to me, that’s a signal that people are really committed to our mission,” Franchetti said.

The service is “very focused” on recruiting, she said. “We can have all the best platforms in the world, but if we don’t have the warfighters that can deploy them, we’re not going to be an effective Navy,” she said. “So, we’re focused hard on recruiting,” including by elevating the head of Navy recruiting to a two-star admiral.

The Navy is also “expanding the pool of folks that can join our Navy team,” including by boosting the age of enlistment to 42. “If anybody out there is not turned 42 yet, there should be some recruiters around who are going to sign you up,” she said. “And if your kid is above 18, you and your kid can be enlisted simultaneously.”

The Coast Guard has had a shortfall as well, Fagan said, but has “kind of recovered” and is looking to recruit more effectively as well, including by boosting its recruiting capacity by nearly 25% and going after young people where they are, including standing up junior ROTC programs and even going on Twitch.

“It’s an online collaborative gaming site, which,

surprisingly, there were a lot of 20-year-olds,” she joked. “There’s the target audience.”

Mahoney said retention numbers in the Marine Corps are “very, very good. We’ve made mission, we will make mission this year. You heard here first, our attention numbers are good and getting better, but it’s not a condition of stasis. You don’t declare victory and walk on to the next issue.”

The Marines must look at the factors that make and keep young men and women Marines, “and that equates to their conditions of the barracks, access to healthcare, access to childcare, good childcare, good gyms. And you’ve got to bring in new ideas to continually, not sit there and declare victory once again, but to make sure that you are addressing needs that they have,” Mahoney said.

**Lockheed Martin Advances
Aegis Weapon System
Coordination with Two Missile
Systems**



Lockheed Martin (Booth 1001) recently completed a successful Flight Test Aegis Weapon System-32 using the combat system to intercept a medium-range ballistic missile target using the Standard Missile-6 Dual II software upgrade.

The test, supported by the Missile Defense Agency, U.S. Navy, and Lockheed Martin, tested a real-world scenario and proved the versatility and strength of the Aegis Combat System, showing the latest weapon system configuration can defeat this class of threat working with the SM-6.

“We rapidly advance and integrate our technologies to ensure the U.S. Navy has the capabilities its Sailors need to meet their toughest missions today and tomorrow,” said Amr Hussein, vice president and general manager of multi-domain combat solutions at Lockheed Martin Rotary and Mission Systems. “This flight test utilized the latest updates to Aegis Baseline 9, which improves tracking, identification and intercept capabilities to solve for evolving, complex threats.”

Lockheed Martin is the Combat System Engineering Agent (CSEA),

responsible for the design, development, integration and test of the weapon system that successfully planned, searched, tracked, and conducted the engagement of the target, including launching and guiding the SM-6 intercept.

In response to written questions from Seapower, the company said the effort tested its latest designs as it continue to evolve and improve the system to defeat ever evolving and challenging threats.

The company has already integrated more than 60 into the Aegist Combat System, including a range of effectors and sensors, both domestically and for six international allies.

PAC Test

The company also investing in technology enhancements to integrate PAC-3 Missile Segment Enhancement (MSE) into the MK 41 Vertical Launching System to support employment with the Aegis Weapon System.

This integration would deliver a hardened defense to maritime fleets using an existing, well-tested interceptor to defends against threats including tactical ballistic missiles, cruise missiles and aircraft.

The company plans to participate in a live-fire event this year, although events are still largely under wraps. Last year, the company participated in an S-Band radio test which simulated the radio that Standard Missiles and others use to get midcourse guidance.

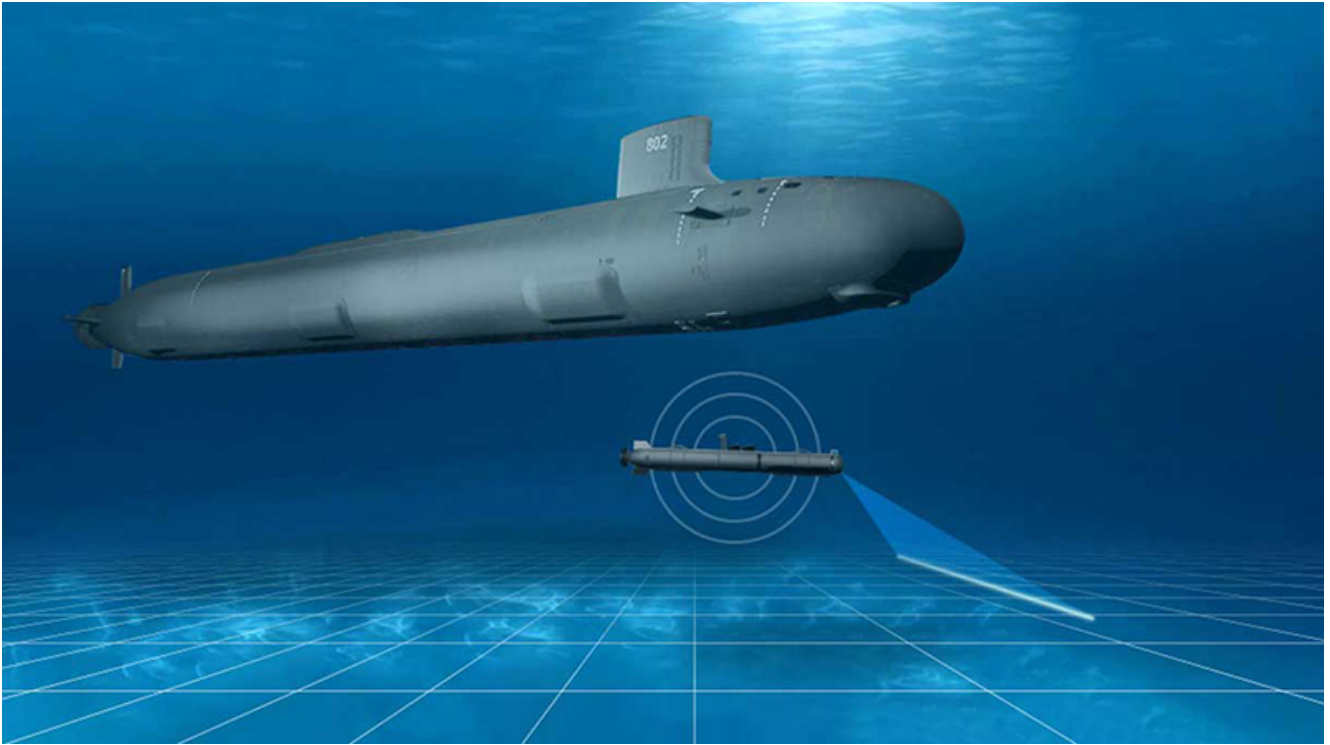
“That was a successful test, so all of the major lab-based, shore-based tests without doing a live fire have been successfully completed,” Tom Copeman, vice president of naval systems and strategy for Lockheed Missiles and Fire Control, told Seapower in an interview. “... All prepping for a live-fire event which is scheduled for 2024.”

The Aegis Combat System has a long and successful record, and the PAC-3 has a lengthy pedigree as well, “so we’re confident that the marriage of these two very, very mature systems will yield a much-improved capability for the United States Navy if they choose to move forward with it,” Copeman said.

The number of Aegis Weapon Systems and PAC-3 missiles could lead to a somewhat widespread use in the fleet should the Navy choose to go that route, and Copeman said “we’ll continue to internally invest to keep the project moving, so if they do decide to go, it could be fairly rapidly implemented if the Navy says they want to do it.”

“Think about the capacity that will enable, which is really a huge capability that we can give the U.S. Navy,” Hussein said.

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.”

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 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.

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.