

STEM Expo Enchants Students with Science, Games and Fun



Kids raise their hands to answer a question during a Mad Science presentation

The annual STEM Expo kicked off Sea-Air-Space 2026 by giving students of all ages a look at the various technologies that underpin the maritime world of the sea services.

Attendees got examples of chemical reactions from Mad Science presentations, learned some of the principles of aerodynamics, saw how many marbles an aluminum foil boat could hold, and more, including getting a close-up look at welding to build ships.

STEM Expo sponsor HII featured a variety of exhibits at its booth, including the marble-carrying boats and welding

systems. John Walker, 043 facilities manager at Newport News Shipbuilding, helped students work with an introductory welding program.

“This introduces these kids to things that they’re probably not exposed to on a daily basis,” he said. “Even at the schools, they probably don’t talk a lot about welding, or fitting up steel, or even shipbuilding. So, STEM is very important to expose these kids to this type of technology and the things we do at the shipyard.”

The Navy League created the STEM Expo to give students interested in science, technology, engineering and math an opportunity to enjoy interactive workshops and hands-on demonstrations while accessing real-world career information.



Students are captivated by dry ice during a Mad Science demonstration at STEM Expo.

HII’s Buzz Donnelly, vice president of customer affairs and a former Navy carrier pilot and ship commander, said he

has “spent a lot of time reaping the benefits of forums like this.” He said the STEM event is a great lead-off event for local visitors and for Sea-Air-Space attendees from all over the world to share with their families.

“It’s extremely important to what we need as a defense industry, because these are the future engineers, the future tradesmen and laborers, that our heavy labor-centric force structure depends on. Regardless of how much we modernize with technology, automation, robots and cobots, we still rely on the people,” Donnelly said.



An attendee gets up close and personal with a pair of virtual-reality goggles at STEM Expo

“Having these young folks here today to see how exciting all the different aspects are, from the shipbuilding to the missiles and aerospace industry, [and] medicines here, is just a real motivating opportunity for them to get them excited about all the things that we do in this industry, to get excited about school, and I know for certain we’re going to have some of them that come in and benefit our nation and this

industrial base in the future.”

Exhibitors at the event, which was also sponsored by Smart Learning Solutions, included universities, defense-related government agencies, science organizations and others.

HII Works to Boost Capacity as New Ship Designs Loom



An artist's conception of a new Navy battleship, as released by the U.S. Navy in December. *Image credit: U.S. Navy*

ARLINGTON, VA – Shipbuilder HII is concentrating on improving its shipbuilding capacity and efficiency to meet the demands of the military and the Trump Administration, efforts that now are expected to include building a new class of battleships.

Chris Kastner, president and CEO of HII, sat down with reporters in the company's Arlington, Virginia office ahead of

next week's Surface Navy Association meeting and said the company is in tune with the administration and is focused on increasing its capacity and bolstering its workforce to speed ship production.

"It's a good and challenging time to be in shipbuilding," Kastner said.

Some of those challenges have arisen very recently. Just before Christmas, Trump announced a new class of battleship as part of the "Golden Fleet" concept to revitalize American shipbuilding, which would mark the first battleship construction since World War II.

This week, Trump said he wants defense spending to climb to \$1.5 trillion, a 50% increase over the current budget, including spending from last year's budget reconciliation bill. He also said defense companies should focus on performance instead of conducting stock buybacks or paying large salaries to executives.

Kastner said while much is yet unknown about the battleship – "we learned of the battleship announcement when you did" – he expects more information in the next month or two and said it won't interfere with plans for a Navy package buy of two aircraft carriers as "it's clear the Navy wants both, they're both part of the Golden Fleet."

The Navy has so far projected the battleship will be up to 800 feet long, have a crew of up to 850 and consist of 20 to 25 ships, each equipped with vertical launch missile cells, two Mk45 five-inch guns, one 32-megajoule railguns, Spy-6 radars and more.

Kastner said the speed of design and construction depends on whether it's a clean-sheet system or one based on a parent ship, such as Arleigh Burke-class DDG-51 destroyers or the follow-on DDG(X) concept.

“If it’s fundamentally based on a derivative of a DDG expanded and they can use the DDG(X) concept studies as a baseline, you can accelerate things,” he said. “It’s all going to be based on the requirements, and how many of those requirements are consistent with a previous ship’s requirements, and whether you can use similar design parameters.”

Navy shipbuilding plans also include a yet-undefined new type of aircraft carrier as well as a new frigate based on HII’s Legend-class national security cutter, which Secretary of the Navy John Phelan described as “a proven, American-built ship that has been protecting U.S. interest at home and abroad ... our goal is clear – launch the first hull in the water in 2028.”

Kastner said the carrier design is likely a “potential redesign of the Ford class” and said the goal date of 2028 for the new frigate is achievable because it’s based on the existing design. The Navy’s previous frigate program, based on an Italian ship design, was truncated to just two vessels after the program experienced schedule delays, cost overruns and design changes.

I have high confidence we can get that in the water in 2028,” he said. “When I say in the water, that means launched by 2028.” As for performing to meet White House and Department of Defense standards, Kastner said, “the theme is invest more, invest more for capacity and capability and technology, and if you do that and execute, you have opportunity for growth.”

Navy’s MQ-4C Triton Maritime

UAV Picks up the Tempo



Northrop Grumman's Brad Champion briefs reporters in front of B21, the latest MQ-4C Triton the company delivered to the U.S. Navy. *Photo credit: Brett Davis*

NAVAL AIR STATION PATUXENT RIVER, Maryland – The MQ-4C Triton maritime uncrewed aircraft, built for the Navy by Northrop Grumman, has been picking up its operational tempo in recent months, even as international customers consider adding the high-flying drones to their fleets.

The U.S. Navy has ordered 24 of the high-altitude, long-endurance aircraft and Northrop Grumman recently delivered the 20th of the batch, tail No. B-21. That vehicle was in a hangar at Naval Air Station Patuxent River on June 13, when the company invited reporters to see it and get an update on the aircraft program.

Australia, a partner on the program, has ordered four and has received three of them so far.

Captain Josh Guerre, program manager for the Persistent Maritime Unmanned Aircraft Systems Office, said the Triton system has been racking up milestones since August of 2023 when its capability stood up in 7th fleet and it achieved initial operating capability. Since then, the Triton was stood up in 6th Fleet in April 2024 and 5th Fleet in October 2024, which Guerre called a “stair-step” progress.

“For us, getting to IOC was like the start of the base climb to Mount Everest, because then we had to stand up capability in two other theaters and then maintain that pace of operation in all three of those theaters in continuity,” Guerre said. “The good news is, we’ve done that.”

Over the last six months, “we’ve been able to execute 45 flights per month across all three operational orbits, 15 per orbit for six straight months,” Guerre said. The aircraft are operated remotely by crews in Jacksonville, Florida, well beyond the line of sight.

Triton is, as Guerre said, “a truck” that carries GEOINT (geographic intelligence) and SIGINT (signals intelligence) payloads, which the program is continually refining to meet the needs of combatant commanders.

Brad Champion, Northrop Grumman’s MQ-4C enterprise director, said although the Triton is a variant of the Global Hawk airframe, it’s very different and its sensor packages are hardened to meet the rigors of maritime environments and to transit through icy weather.

It is, he said, “the most advanced UAV that has ever been deployed by the U.S. Navy.”



An MQ-4C Triton peeks out of a hangar at Naval Air Station Patuxent River. *Photo credit: Brett Davis*

As the company nears the end of the current U.S. Navy buy, other countries are considering adding Triton to their fleets, including Norway, which is expected to down-select between the Triton and a competitor platform later this year.

NATO, which is already flying the Global Hawk as part of its Alliance Ground Surveillance program, wants to beef up its program as well with a maritime variant.

The Triton is expected to interface closely with the Navy's Boeing-built P-8 Poseidon crewed aircraft, as together they help pick up the workload of the aging P-3 Orion maritime surveillance aircraft.

The multi-intelligence version of the Triton "was selected as one of a family of systems to replace the EP-3," Champion said. "The EP-3 has sunset and Triton is picking up a portion of that mission from a SIGINT perspective."

Any country that flies P-8s should consider the Triton, Champion said, as they operate in a similar fashion and can share similar information. And, because the Triton can pick up the SIGINT portion of the work and leave the P-8s to conduct anti-submarine warfare, “we actually preserve the life of your P-8.”

New Systems Pending, but Coast Guard ‘Stretched Thin,’ Lunday Says



Secretary of Homeland Security Kristi Noem and Admiral Kevin Lunday, acting Commandant of the Coast Guard, shown here discussing response efforts in Washington D.C., January 30, after a helicopter and passenger jet collided. *Photo credit:*

U.S Coast Guard | Petty Officer 1st Class Brandon Giles

Much-needed new ships are on the way for the U.S. Coast Guard, acting Commandant Admiral Kevin Lunday told members of a House Armed Services Committee panel on May 14 as Congress prepares to receive defense budget requests from the new administration.

Lunday noted the service quickly moved resources to the Southern U.S. border in the wake of the presidential election.

“In January of this year, under the leadership of Secretary [Kristi] Noem, I directed our operational commanders to immediately increase Coast Guard presence along the U.S. border and maritime approaches, starting with the southern border where the president has declared a national emergency,” Lunday told members of the committee’s Subcommittee on Homeland Security. “We surged forces, tripling the number of forward-deployed air and surface assets in that area.”

The service also moved to continue operations to control the northern border, including on the Great Lakes, to maritime approaches around Alaska, Hawaii and U.S. territories in the Pacific.

“Tasked with defending the nation’s maritime borders, countering threats like illegal migration and drug trafficking, safeguarding our ports and waterways, responding to maritime disasters, and saving lives, the service is now stretched thin, with significant workforce shortages and aging, underfunded assets and infrastructure nearing collapse,” he said. “The Coast Guard’s current organizational structure and reactive posture are no longer adequate to meet current and emerging challenges.”

Acquisitions

Last month, Lunday debuted a plan called Force Design 2028, aimed at addressing those issues. It will focus on four major areas: People, organization, acquisition and contracting and

technology, including an effort to “Develop a high velocity acquisition and contracting system to rapidly deliver the assets the service needs to fulfill its commitment to the American people.”

Some much-needed assets are already in the works, Lunday told members of the panel, with new production milestones achieved.

The service’s top ship acquisition priority is the polar security cutter and Lunday said the first PSC received approval on April 30 for full production by Bollinger Shipyards. Functional design maturity has topped 95 percent, so “they already are construction 10 of the pre-fabrication assembly units, which are the bottom center sections of that new icebreaker,” he said.

Likewise, the service is moving ahead to replace its aging construction tenders and river tenders, which maintain aids to navigation, and some of which have been in service since the 1940s. The DHS has approved the construction of the first eight of the new water commerce cutter being built by Birdon America, with their homeports to be decided later.

New systems are needed in the air as well, Lunday said.

The recent termination of the C-27J missionization program and stalled growth in our HC-130J program place our readiness to conduct various missions in jeopardy, including long range surveillance, disaster response, and border security operations,” he said. “For our rotary wing fleet, it is imperative that we continue and accelerate transition of air stations from the short-range MH-65E to the medium-range MH-60 to ensure sustainability and increase our capability to serve our national priorities.”

Navy League Fly In Focuses Federal Attention on Sea Services



Navy League National President Christopher Townsend, right, speaks with Rep. Rob Wittman of Virginia during the Fly In. *Photo credit: James Peterson*

Members of the Navy League of the United States fanned out across congressional buildings on May 7 as part of the second consecutive “Anchors Aweigh Fly In” to help educate lawmakers and their staff about the needs of the men and women of the sea services.

Luke Lorenz, the senior director of legislative affairs at the Navy League, said nearly 60 members from around the country participated in the Fly In, a significant step up from the 40 who took part last year, when the annual effort was restarted in the wake of COVID.

They came from all over the country, as far away as California, representing the Navy League's different regions, he said.

The Navy Leaguers briefed lawmakers and their staff on a variety of issues, including the importance of passing regular appropriations bills instead of relying on continuing resolutions that freeze federal spending at last year's levels. For many agencies, including the Department of Defense, that amounts to a cut as it doesn't account for inflation.

Bolstered by a new report from the Congressional Budget Office, the Navy Leaguers advocated for at least a \$40 billion annual Navy shipbuilding and conversion budget to get to a 355-ship manned fleet, as well as \$10 billion annually to build an uncrewed fleet.

They also advocated for a \$20 billion Coast Guard budget (up from less than \$13.5 billion in fiscal 2024) and touted workforce development pipeline programs such as the Sea Cadets and Young Marines.

Last but not least, the group sought co-sponsors for the SHIPS for America Act, which would revitalize the U.S. shipbuilding and commercial maritime industries. Creating such an act was a chief goal of the Fly In last year; now that it has been introduced, the Navy Leaguers called for support and passage.



Nearly 60 Navy League members took part in the 2025 Fly In.
Photo credit: James Peterson

“Today was a great day. It’s always a privilege to spend time with my fellow Navy Leaguers who fly down here on their own dime, taking time off from work and their busy lives, to advocate for our sea services, the Navy, Marine Corps, Coast Guard and U.S.-flag Merchant Marine,” said board member Sara Fuentes.

“It’s really inspiring to see how they’re able to move the ball forward in terms of our sea service priorities. Last year we were here asking Congress to consider a SHIPS for America Act and today we are here asking for that SHIPS for America Act to have cosponsors. So, it’s amazing to see the progress we’ve already been able to make within one year thanks to the passion, dedication and service of Navy League members.”

After the busy day, members reported to National President Chris “Towny” Townsend they heard support for the SHIPS Act and the sea services during their meetings, and members were pleased the message was non-partisan.

Townsend said the event was “bittersweet” for him, as the Fly In is his last as national president, but said, “As always, it’s great to see our members engage, to execute on of our most important mission pillars, which is to advocate on behalf of our sea services, our sea service members and their families. And I saw that in full display today.”

Resonating Messages

Hampton Dowling, of the Mid-Atlantic Council in Northern Virginia, said although he is a life member, the Fly In was his first event with the Navy League – and it won’t be the last.

He said the staffers he spoke with felt the SHIPS for America Act was something that needs to happen and were impressed that the Navy League is one of the driving forces behind it.

“To have such a definitive statement by staffers on a rather uncommon subject matter – and the bill is about as complex as an octopus – I was really impressed. I was very optimistic,” he said.

Retired Navy Commander Jim Semerad met with a variety of lawmakers and staffers, from Republican Rep. Pete Sessions of Texas to Michigan Democrat Rashida Tlaib, and said the message resonated well on both sides of the aisle.

Semerad said Sessions even “commandeered” him to address Sessions’ staff and educate them about the Navy League and its issues, and Tlaib was “very excited that I showed up” and came out of her office to speak with him.

“People wanted to do the right thing when it comes to the Navy’s and the sea services’ budget,” he said, including for keeping commercial shipping lanes open.

“This was a very positive experience,” Semerad said. “I would encourage everybody from the Navy League: Put on your

comfortable shoes, wear tennis shoes if necessary, and come to Washington, D.C. and have the experience of passing on the Navy's message. You'll feel good about it and the legislators feel good about it, too."

Sea-Air-Space: Looking Ahead to a Modern Marine Corps



Major General Jason Woodworth makes a point during the panel on modernizing the Marine Corps. *Photo credit: Dan Goodrich* Six years into its modernization initiative, the Marine Corps has a head start on some of its sister services. But there's still more to be done, said panelists during the April 8 session "Modernizing the Marine Corps: Building an Agile, Lethal and Resilient Force."

“It’s exciting and we need to go faster,” summed up Lieutenant General Eric Austin, deputy commandant for combat development and integration and commanding general of the Marine Corps Combat Development Command.

Austin emphasized the Marine campaign of learning and its influence on force design. “How we responsibly modernize the Marine Corps is how we execute force design,” he said.

Lieutenant General Benjamin Watson, commanding general, Training and Education Command, said the Corps has traditionally relied on brick-and-mortar training solutions, “but that’s not the world we’re in these days.”

He cited initiatives like Project Triumph’s emphasis on leveraging technology to be more efficient and effective, and Project Tripoli’s emphasis on a live, virtual and constructive training environment.

“We’re increasingly fielding more complicated and sophisticated systems that are tougher and more costly to train on. I think if you look at what we’re seeing in contemporary conflict, it’s not much of a stretch to say we will never fight again with what’s traditionally known as air superiority,” Watson said, citing the need for unmanned systems integration, data and artificial intelligence.



"It's exciting, and we need to go faster," said Lieutenant General Eric Austin. *Photo credit: Dan Goodrich*

"One of our mantras is the idea that any Marine using a precision weapon can kill someone who needs killing at 500 meters. But now that's up to 15, 20 kilometers and beyond" through the use of technology like first-person view drones, he said.

Major General Jason Woodworth, commander, Marine Corps Installations Command, and assistant deputy commandant, Installations and Logistics, discussed the importance of Barracks 2030, noting that modernizing aging structures is one of the commandant's top priorities.

"It's where warrior and family readiness starts. If Marines are good at home, they're better at work," he said.

Brigadier General Robert Brodie, director, Expeditionary Warfare OPNAV N95, said he's seeing good collaboration between the Marine Corps and industry on modernization initiatives. He said in terms of shipbuilding, the most successful companies

have great relationships with other industry partners as well.

Brodie and the other panelists said to further facilitate Marine-industry partnerships, members of the Corps need to do a better job of defining exactly what they're looking for from industry – including opportunities for industry to help them understand a problem, define the problem and shape solutions.

Sea-Air-Space: TRANSCOM Chief Touts Navy, Merchant Marine Cooperation



Air Force General Randall Reed, commander of U.S. Transportation Command, discussed the strength of the Navy-Merchant Marine connection on April 8. *Photo credit: Dan Goodrich*

Air Force General Randall Reed, commander of U.S. Transportation Command, walked attendees at the Navy League Luncheon on April 8 through a history lesson of national and international conflicts to show the importance of the team of the U.S. Navy and Merchant Marine.

As a boy growing up in the Hampton Roads, Virginia, area, he would ride his bicycle to the historic Fort Grove and watch commercial ships sail by, followed by gray Navy ships from Norfolk Naval Base.

“The inextricable link between Navy combatants and our commercial Merchant Marine, the combination of those two makes our country great and that is what also makes TRANSCOM great,”

he said.

Throughout American history, the Navy, often at incredible odds, has made the waterways safe so merchant ships could carry supplies. Some of the historical issues are familiar to the audience at Sea-Air-Space, Reed said.

During this year's conference, "We've talked about trouble with shipbuilding, we've talked about supply chains, we've talked about contested logistics, long distances. And the next fight we have coming up, there's this thing about blockades we have to consider. We have very capable adversaries with very large fleets. There's a need for shallow draft ships and we have to get the mission done for sustainment. If this isn't enough to keep you up at night, then you probably miss the fact that I'm not talking about today. I'm actually talking about the challenges that we had during the Revolutionary War," Reed said.

"And the message here, ladies and gentlemen, is we've been here before, and during that time we had just as much uncertainty."

Lessons from other periods in history are also still relevant, Reed said, such as during the War of 1812, when the U.S. Navy swept away threats on the water, in this case Lake Erie, so the Merchant Marine could supply the front lines from behind.

"So, in this case, once again, it's the Navy being able to fight, set the conditions to get some kind of sea control, to allow the Merchant Marine to provide the sustainment that's needed for the rest of the force."

That carried on through two world wars, and especially World War II, when the Merchant Marine was called upon to perform sustainment heroics, at great cost to its ships and crews.

"And with that, we became the nation that the world needed us to be, to have great influence to partner with allies,

partners and friends, in order to create a period of peace for the last 80 years that has delivered for all of us, I'm told, economic prosperity that the world has never seen," Reed said. "And so with that, I want to take a moment to pause and say the combination of the Navy and the Merchant Marine at that time was really incredible and actually changed the world."

Going forward, Reed said sustainment is still the "name of the game," only now it's contested by groups such as the Houthi rebels from Yemen who don't have to have a lot in the way of resources.

The Merchant Marine needs newer ships and better equipment, Reed said, and he's been telling that to supportive members of the U.S. House and Senate.

"I'm telling them that the ages of our ships right now are way too old, and we need to get younger ships and I'll take them however I can get them. But the main thing is, it's not necessarily for the ships and the platforms, it's also for the proof force because we have a very capable proof force and they need the best in the biggest equipment that we can absolutely get for them."

This was brought home to him during a recent visit to the Merchant Marine Academy in Kings Point, New York, Reed said. There, he witnessed 14 cadets receiving expeditionary medals from the secretary of transportation, a scene he said nearly brought him to tears.

"Think about that. Expeditionary medals on a cadet because as part of their education they take to sea, and these cadets have actually seen combat. They've actually been in harm's way. They were actually telling us stories of what it's like to sail past Yemen and watch things go over their head or to watch the Navy actually engage targets to protect them. And they were not afraid. In fact, they were ready to go back for more. And so, ladies and gentlemen, we need to do this for

them.”



Medal of Honor winner Edward C. Byers Jr. was awarded the Admiral Arleigh Burke Leadership Award.

Photo Credit: Dan Goodrich

Awards

Following the lunch, the annual Navy League Awards were presented:

- The Admiral Vern Clark Individual Award went to Angelo Owens, the safety and occupational health division director at the Fleet Readiness Center East.
- The Admiral Vern Clark Unit Safety Award went to Airborne Command & Control (VAW) 117 Wallbangers.
- The General James L. Jones Individual Award went to

Deputy Chief Ryan Tworek at Marine Corps Logistics Base Barstow, California.

- The General James L. Jones Unit Safety Award went to Marine Corps Air Station Miramar, California.
- The Albert A. Michelson Award went to Robert Taylor of Bardex Corp.
- The Fleet Chester W. Nimitz Award went to Robert “Scott” Forney III of General Atomics Electromagnetic Systems.
- The Admiral Arleigh Burke Leadership Award went to Master Chief Special Warfare Operator (SEAL) Edward C. Byers Jr., U.S. Navy, retired.

“I really do look out at this room and I see the fabric of America, the threads that hold our nation together during our most precious times” Byers said upon accepting the award.

Sea-Air-Space: U.S., Canada Support Investment to Maintain Arctic Security



Vice Admiral Angus Topshee, commander of the Canadian Navy, right, and Coast Guard Vice Admiral Tom Allan discuss polar security in a changing world. *Photo credit: Seapower magazine*

The U.S. Coast Guard was pleased to hear of President Trump's interest in acquiring as many as 40 new icebreakers, said Coast Guard Vice Admiral Tom Allan, the acting deputy commandant for operations.

"Whenever your boss is interested in 40 icebreakers, you are very happy, right?" he said in response to a question during the April 7 panel on "Demanding Presence in the Poles: How a Good Arctic Strategy is Part of our National Security."

"I mean, this has been something that we've been trying to do for a long time, I'll tell you that," Allan said.

They wouldn't all need to be heavy icebreakers like the aging Polar Star, in service since the 1970s, he said, as studies have shown the Coast Guard wouldn't need more than eight or nine of those. There are smaller ships that could do icebreaking as part of their other functions, and some could

be used on the Great Lakes.

Adding those in, “you get up to that 40 number pretty quick,” Allan said,” because that’s what we need ... to make sure that domestic operations continue and that we are poised to have that presence in the high Arctic and Antarctic. So, I’ll just say it’s very exciting to see your boss point towards a vision that we’ve had for a long time.”

Blue Water and Commercial Activity

The United States and Canada must maintain a strong presence in the poles, especially as warming trends lead to more commercial activity, including shipping and mining, speakers from those nations said during the panel.

Operating in the region is challenging, the panelists said, not only because of ice but also from wind and fog, which can hamper aviation.

“So, having properly equipped vessels, training crews, and most importantly, [having] icebreakers is essential to giving the U.S. assured access to these critical areas,” Allan said.

“We must meet presence with presence, or even better, meet presence with strength. If we aren’t present, others will fill that void, nations whose interests may not align with ours or our allies. Russia controls nearly half of the Arctic, and we’re seeing increased cooperation between Russia and China in this space,” Allan said. “From resource shipments to military operations, we must lead the polar region ... if we fail to act, we’ll be left on the sidelines, watching others shape the future of the region in ways that cannot serve our national interest.”

This is true for Canada as well, said Vice Admiral Angus Topshee, commander of the Canadian Navy.

Canada has made substantial investments in domain awareness in

the region, from over-the-horizon radars to a network of subsurface sensors “designed to make sure we know what’s going on in that region,” he said, which includes adding six ice-breaking warships to its fleet.

The Arctic is remote to Canada as well, he noted. Going from Halifax, Nova Scotia, across the Atlantic and into the Mediterranean is a quicker trip than visiting the Arctic, he said.

“That’s a shorter trip than up into our Arctic. So, for us, it’s an expeditionary theater,” which means working closely with the territorial governments in the region to understand the security challenges they face.

Vice Admiral Doug Perry, commander of U.S. 2nd Fleet, said his fleet was stood up in 2018 “in recognition of there are some real threats that come from the Arctic and through the Arctic,” similar patterns of activity to the Cold War.

“We’re back to needing to be there with persistence today,” Perry said. That includes using space assets and radars for domain awareness and having ships in the region when needed.

“There’s less and less sea ice. There’ll be more and more blue water every day of the year going forward,” he said. “And so, that demands that if we value international freedom of the seas and international rules-based order, if you will, then we actually have to be there and be present and have persistent presence to demonstrate that we will enforce international law” even in some countries illegitimately claim to own particular sea routes.

Perry said seven of the eight Arctic nations are members of NATO, “all of whom are thoroughly invested in Arctic security” and are making investments in their capabilities.

Sea-Air-Space: ThayerMahan's Outpost TM001 Christened on Show Floor



Australian Ambassador to the U.S. Kevin Rudd speaks as Courtney and ThayerMahan CEO Michael Connor look on. *Photo credit: Brett Davis*

After speaking on a panel about AUKUS, the partnership to build submarines and share technology between the United States, United Kingdom and Australia, Rep. Joe Courtney (D-Connecticut) took to the show floor to celebrate an early technology partnership.

Courtney broke a bottle of “champagne” against the hull of an unmanned surface vessel, the Bluebottle USV from Australia’s

Ocius Technology Ltd. The vehicle is equipped with a towed sensor array and related technology from Connecticut-based ThayerMahan (Booth 2039).

That vehicle is the first of six to be delivered from Ocius to ThayerMahan and is now named the ThayerMahan Outpost, TM001, aimed at performing persistent surveillance. (Because the event was on the show floor, the bottle was plastic and not filled with bubbly.)

Outpost can be built and deployed quickly and for less than 1% of the cost and personnel compared with legacy acoustic surveillance platforms, the company said. In fact, the Outpost can usually be operated by just one person sitting before a monitor, said retired Navy Vice Admiral Michael Connor, CEO of the company he founded in 2016.

“We were just having a great conversation about AUKUS Pillar 2, and this is it, in three dimensions,” Courtney said before the christening.

He said Connor, the former commander of U.S. submarine forces who became enthusiastic about unmanned systems before they were mainstream is “a prophet, ahead of his time.”



Rep. Joe Courtney of Connecticut prepares to christen the TM001 USV on the show floor. *Photo credit: Brett Davis*

Kevin Rudd, the Australian ambassador to the United States, said the Outpost is “innovation writ large,” with a “cheap, usable, deployable, flexible, all-purpose platform” equipped with a sail, solar power and the ability to generate power from wave motion.

“This is quite extraordinary, but also it becomes this wide-area surveillance platform for multiple applications, both civilian and military,” Rudd said, later joking that TM001 should be christened with a bottle of Foster’s lager and the use of champagne is “possible un-Australian activity.”

Robert Dane, CEO of Ocious Technology Ltd., said the second platform sold to ThayerMahan, TM002, is already in the country and TM003 is on its way, “and it’s our job to get 4, 5 and 6 here by the end of the financial year, which is June in Australia.”

Dane also described the partnership with ThayerMahan an “AUKUS

Pillar 2 success.”

Speaking earlier to Seapower, Connor said, “the thing that we produce is valuable for both countries in that we do wide-area acoustic surveillance for surface ships and submarines for about a penny on the dollar relative to how we do it with ships, aircraft and submarines. The fact that we do it together with an Australian partner is, I think, a very positive aspect of relations between the countries. We bring a best-of-breed sonar and they bring a best-of -breed vehicle.”

He said ThayerMahan had tested its sonar array on virtually every one of the USVs on display at Sea-Air-Space, but “only this one can really handle the size of the array that you need to get the performance.”

Sea-Air-Space: Shipbuilding, Industrial Base Concerns Come to the Fore for SECNAV, Congress



New Secretary of the Navy John Phelan addresses the audience on the final day of Sea-Air-Space. *Photo credit: James Peterson*

Fourteen days into his tenure as the 79th secretary of the Navy, John Phelan said he plans to focus on three things: strengthening the shipbuilding industry and defense industrial base; creating an accountable, adaptable warfighting culture; and improving the health, welfare and training of Department of the Navy personnel.

“My number one priority as SECNAV is readiness,” Phelan said in a breakfast address on the last day of Sea-Air-Space. “I wake up every day focused on our readiness, our ability to fight, and a modernization strategy going forward.”

For decades, the United States has enjoyed the benefits of being the world’s pre-eminent maritime power, he said, but that lack of competition, a bureaucratic inertia and a rigid adherence to the “old way of doing things” has led to complacency, he said.

“China constructed more ships last year alone than we have since World War II,” he said. “Our adversaries are not waiting on us to get our act together.”

Fourteen days in, “I may have underestimated just how complex this job is,” he said. “As everyone in the room knows, leading the Department of the Navy is anything but easy, but I didn’t come here for easy. I came here to solve problems.”

Among those problems are shipbuilding backlogs. Phelan has already visited the government shipyards in Connecticut and plans to visit the rest, public and private, to help understand the scope of the issue.

When he sat down with the shipyard workers, he was struck by their dedication and sense of mission, Phelan said.

“I said to them, you’re not just building ships. You’re contributing to our national security, and the president and I thank you for that. In my view, investing in people is as critical to our success as any weapon system or fighting strategy. We’re facing a serious shortage in our shipbuilding workforce, which is stressing our performance schedules, exacerbating the strain on our current forces, therefore leading to extended deployments” that put stress on the crews.

“These challenges are not hypothetical. They affect the lives of our Sailors and their families who feel the weight of these pressures every day. The Department of the Navy, working closely with industry, must offer a clear vision for the future of our shipbuilding workforce, one that includes career growth, competitive compensation and a strong sense of purpose,” Phelan said.

Acquisition reform is a perennial challenge for the Department of the Navy and the military at large. Phelan, with a background in business, said he wants to understand why the processes move so slow and why some programs cost so much.

He cited the construction of military barracks that cost \$2 million per key, when his company was able to build a luxury hotel in Hawaii for \$800,000 per key.

“In the coming weeks I’ll review our acquisition systems and identify how we can streamline and reform them. I’ll work across the department and especially with industry to find solutions,” Phelan said. “We’ll restore and maintain operational readiness, fiscal responsibility. In order to do so, I’ll rely on experience and insight from the people around me. I’m not interested in echo chambers. I want honest perspective and real results. General Patton said if everyone is thinking alike, someone’s not thinking.”

Asked how he plans to revitalize shipbuilding and growing the maritime industry, Phelan pointed out he’s still new on the job.

“I would say to that question, stay tuned. I’m on day 14. I intend to meet with all of our major contractors, and those who would like to become contractors. I think we have to really ensure that we have a huge, strong base, but we also have competition. And I think we need to provide that by expediting some of our processes and making it easier.”



Members of the House Armed Services Committee address the issues facing the maritime services. From left: Moderator Bryan Clark of the Hudson Institute and Reps. Trent Kelly, Jenn Kiggans and Rob Wittman. *Photo credit: James Peterson*
Congressional Insight

Some members of Congress with defense oversight duties spoke shortly after Phelan and said rebuilding the defense and shipbuilding industrial base means rebuilding the workforce and giving them steady demand signals.

Reps. Trent Kelly (R-Mississippi), Jennifer Kiggans and Rob Wittman, both Republicans from Virginia, and all of whom are members of the House Armed Services Committee, appeared on a panel and said there are options to revitalize shipbuilding and the industrial base.

“I think that the speech that you just heard from the secretary of the Navy, and what he reiterated from the president’s direction to him, was shipbuilding, shipbuilding, shipbuilding,” Wittman said. “I love it. But the key is, you

have to get left of that enterprise. And being to the left of the enterprise means if you're going to do shipbuilding, shipbuilding, shipbuilding, it starts with workforce, workforce, workforce."

The Office of Management and Budget needs to give contractors the ability to move money payable at the end of a contract to the beginning to boost workers' salaries and make the jobs more competitive, Wittman said.

"And listen, Congress can do that, but I can tell you by the time the Congress gets through the NDAA [National Defense Authorization Act] and appropriations and it gets in the hands of the Pentagon, that's a 24-month window. Today, it could happen immediately by OMB allowing in those contracts for that money to be moved to the left."

Kelly said the workers also need a steady demand signal, not working on multiple ships one year and none the next.

"We've got to have consistency," Kelly said. "... If you don't have a consistent demand, you can't pay workers, you can't make infrastructure investments, you can't do any of that."

Kiggans and Kelly also said the Navy shouldn't be so quick to decommission ships at a time when it needs more to counter the burgeoning Chinese navy.

"I need the Navy again to come out and say, I want every ship I have. We're keeping our older ships. Every single one of 'em. Now is not the time to be decommissioning ships that we just sent on deployment," Kiggans said.

Kelly blamed Navy officials for ignoring congressional directives to keep ships in play.

"We should not retire a ship, any ship, if we don't have a replacement. Any," Kelly said. "... And I'll tell you, I've seen this ... but a lot of times when we tell the Navy you're not

retiring a ship, the answer is, is we'll just make sure it's broke and we'll just say it didn't work, and see, we told you. So, there is no effort to actually make that piece of equipment work. It's, we don't want to do it and we're going to ignore you, Congress, we're going to ignore you, president, we're just going to make sure that it doesn't work.

"We have got to be committed to making sure that everything that we have can be operational at a moment's notice and that we keep them operational and that we keep training those crews."