Navy, Marine Officials: AI Will Augment – Not Replace – Humans

Rear Adm. David Hahn, chief of naval research, and Jennifer Edgin, the U.S. Marines Corps' assistant deputy commandant for information, were the guests on a webcast April 16 for the Navy League's Sea-Air-Space 2020: Virtual Edition on the two sea services' possible uses for artificial intelligence.

ARLINGTON, Va. – U.S. Navy and Marine Corps officials close to the effort to develop artificial intelligence in machines say the technology is advancing rapidly and will be used where it can add value.

Discussing AI in an April 16 webcast of the Navy League's Sea-Air-Space 2020: Virtual Edition were Rear Adm. David Hahn, chief of naval research, and Jennifer Edgin, the Marines' assistant deputy commandant for information. They said AI has an "incredible capability" and will have a "huge role to play" in warfighting.

To register and then watch this Sea-Air-Space 2020: Virtual

Edition webinar live online, click here.

Hahn said that AI can help sort the enormous amounts of data available to the warfighter and perform many tasks that previously were performed by humans.

“Things advance faster when artificial intelligence is applied,” Hahn said.

He stressed, however, that AI will not replace humans, but will augment them.

“I don’t think you should look at it as replacing [humans], he said. “I think you should look at it as a value add. That value add will come in speed of decision, or the efficiency of the operation, or the effectiveness of that decision or that event. I think that this [AI] is a force multiplier for the humans who are engaged in these activities.

“It’s up to us to find the combinations of artificial intelligence and other technologies like autonomy to apply the appropriate ways to naval warfare,” he said. “I don’t think it’s a one-for-one, and we’re not going to trade out a human for a machine. We’re going to make the whole team better with this human-machine teaming concept.”

> *“I don’t think you should look at [AI] as replacing [humans]. I think you should look at it as a value add.*
>
> *Rear Adm. David Hahn*

Hahn stressed that AI and autonomy are not the same, but where they intersect, AI can add value to autonomy.

“Autonomy is going to move along a pathway, and when machine learning or some other method of artificial intelligence can add to that autonomy to accomplish a mission, then there will be an intersection,” he said. If it adds value to the mission, then it will make sense to do it.”

Humans are still required for many types of decisions and the services are working on the issues that arise with the use of AI.

“That conversation is maturing,” Hahn said.

The admiral said that he sees a “democratization” of the tools of AI, in which it becomes the domain not just of academia but will eventually spread to general use by the military and the public. A disadvantage of that democratization is that the AI in use will be available to adversaries, and AI that can be used for beneficial purposes also can be used for nefarious purposes.

AI “is an incredible capability that we in the Marine Corps seek to harness,” Edgin said. “Our philosophy is how do we want to pair Marines with machines to be more effective on the battlefield. We don’t want Marines to be spending their time putting a whole bunch of data into a spreadsheet. We want Marines to be able to make judgement decisions. We want them to use that Level 4 fusion capability that we have as humans to develop courses of action to lead at the small-unit level.”

“One of the most beneficial tools we have today is actually the individual Marine,” she added. “What we try to do is unleash their potential to identify technologies, identify problems, and then quickly implement a solution.

“If there is one truth in AI, there will always be something new and exciting that can potentially provide benefits to us.”

Space, the Hostile Frontier: Panel Explores Defense of Earth Orbit

A Falcon 9 rocket launches on Jan. 6 at Cape Canaveral Air Force Station, Florida. The rocket, carrying an installment of Starlink satellites, was the first official launch of the U.S. Space Force. U.S. Air Force/Joshua Conti

Space is not benign – no longer just the domain of unmanned scientific probes and occupied by astronauts in capsules or space stations exploring and conducting research, panelists stressed during a webcast that was aired on April 16 as part of the Navy League's Sea-Air-Space 2020: Virtual Edition.

"Space, internationally, is very important to our way of life. It's of strategic importance. We see our adversaries starting to weaponize space," said Rear Adm. Marcus Hitchcock, director

of strategy, plans and policy at U.S. Space Command, the unified combatant command responsible for American military operations in outer space.

To register and then watch this Sea-Air-Space 2020: Virtual Edition webinar live online, click here.

Other guests in the panel discussion, which was moderated by Francis Rose, included Derek Tournear, director of the Space Development Agency, and Christian Zur, executive director of the Procurement and Space Industry Council of the U.S. Chamber of Commerce.

“We’ve seen a massive explosion in everything space, at the national level and in our military,” Hitchcock observed, noting the establishment last year of the newest branch of the military, the U.S. Space Force. “Every morning we leap out of bed and we come in and stand the watch to maintain our space domain.”

The discussion during the webinar for the Navy League’s Sea-Air-Space 2020: Virtual Edition included (clockwise) moderator Francis Rose, Christian Zur, executive director of the Procurement and Space Industry Council of the U.S. Chamber of Commerce, Derek Tournear, director of the Space Development Agency, and Adm. Marcus Hitchcock, director of strategy, plans

and policy at U.S. Space Command.
The admiral observed that space has already seen its share of incidents, such as the 2017 launch of a missile by the People's Republican of China, a "Great Power Competitor" along with Russia, that shot down a satellite in low-earth orbit. "This is a very real example of our adversaries or potential adversaries developing counter-space offensive weapons that can test our supremacy."

A satellite recently launched by Russia also is believed to have the capability to damage or disable U.S. Military assets in orbit, Hitchcock added.

To maintain America's strategic high ground in space, Tournear said the U.S. needs to maintain its technological advantage but speed up the frequency of its launches of defense assets.

> *"Space, internationally, is very important to our way of life. It's of strategic importance. We see our adversaries starting to weaponize space."*
>
> *Adm. Marcus Hitchcock, U.S. Space Command*

"In the last National Defense Strategy, it basically said we have the new technology, we have the best digital base, but we do not have the speed, and our adversaries are able to get capabilities in orbit in three- to five-year timeframes at the longest. At the shortest, we can do it in 10 years [but] usually it's closer to 15."

It's the mission of the Space Development Agency to field U.S. capabilities to orbit faster, he added.

Moderator Rose observed that the NASA-based model had "flipped over the past few years," where instead of U.S. efforts in space being led by the vaunted civilian government agency, space efforts are being pioneered by

private industry – scientific and commercial endeavors but most especially defense applications.

Tournear countered that this development has led to companies building "hundreds of thousands" of satellites, commoditizing them and getting them to orbit quickly. "No longer does the government need to lead to make sure we develop the best technology," he said. "We need to make sure we can get technology up there every two years."

Zur picked up the discussion from private industry's perspective.

He said the pairing of industry and defense technology for space started early, in the 1950s. Once the Defense Department started seeking technology for space, notably computer chips, costs per chip started going down. That trend has stretched into today, Zur said.

Rose touched on the responsibility that commercial industry and governments hold to mind how they maintain low-earth orbit. Zur talked about space debris but also private industry's role as caretaker.

"While I could argue that there aren't really enduring procedures that are accepted among all the players, and in large part militaries around the world have different objectives, we in the U.S. have kind of taken the lead in the commercial use of space. These norms and procedures have to be established, not only from a regulation standpoint, it's simply best business practices. We're just at the beginning stages of this."

Hitchcock agreed with Rose that it's important for U.S. Space Command to know what commercial assets are in orbit, where they are and what function they are serving. The U.S. is "getting better at looking up and understanding what is in space," he added.

He described a new radar that recently went active that can map and track assets of all kinds – U.S. governmental, foreign and commercial. Older tracking counted some 25,000 objects in orbit, only 2,000 of which were actual satellites or other platforms, he said. “The rest of it was debris, trash. We think our understanding of what’s up there will increase tenfold as this ‘space fence’ comes online, and we might see as many as 250,000 different objects up there.”

Foggo: U.S. Military in All-New Territory in Fight Against Virus

Hospitalman Recruit Jacob Cortes monitors the level of oxygen

in a tank aboard the hospital ship USNS Mercy on April 14, docked in Los Angeles in support of COVID-19 response efforts. U.S. Navy/Mass Communication Specialist Seaman Luke Cunningham

ARLINGTON, Va. – The scope of the COVID-19 pandemic shows the new domain that the U.S. military must prepare to operate in, according to the top commander of U.S. naval forces in Europe and Africa.

"That seventh domain is just simply germs. It's the biosphere we operate in," Adm. James Foggo III said April 15 during a webcast for Navy League's Sea-Air-Space 2020: Virtual Edition. "And I think we're going to have to take that into account in our preparations for deterrence and defense in the future."

To register and then watch this Sea-Air-Space 2020: Virtual Edition webinar live online, click here.

Foggo, commander of Allied Joint Force Command, which is based in Naples, Italy, as well as U.S. Naval Forces Europe and U.S. Naval Forces Africa, said the challenges of a massive NATO exercise, Trident Juncture 2018, which involved 50,000 personnel, 70 ships, 10,000 ground vehicles and 165 different aircraft, taught him that logistics should be added to the five battlespace domains of land, sea, air, space and cyber. However, the coronavirus outbreak that has sickened 1.9 million people worldwide, killed more than 123,000 and devastated Italy shows that there's now a seventh domain.

> *"That seventh domain is just simply germs. It's the biosphere we operate in."*
>
> *Adm. James Foggo III*

"It hit us earlier, here in Italy," where the Joint Force has facilities at Aviano Air Base in the north, Naval Air Station Sigonella in Sicily and Gaeta, near Naples, where the amphibious command ship USS Mount Whitney, the flagship of the 6th Fleet, is based.

Foggo credited Microsoft founder, billionaire and philanthropist Bill Gates for suggesting in a 2015 speech that, in addition to traditional wargames and tabletop exercises, pandemic planning take priority.

Foggo also cited a fast-spreading virus wargame, Urban Outbreak 2019, co-sponsored by the U.S. Naval War College, the Uniformed Services University of the Health Sciences and Johns Hopkins University's Applied Physics Lab, as "a start in preparation for the future and incorporation into our planning processes."

Adm. James Foggo III, commander of Allied Joint Force Command, U.S. Naval Forces Europe and U.S. Naval Forces Africa, spoke on April 15 during a Navy League Sea-Air-Space 2020: Virtual Edition webcast.

The admiral stressed the importance of testing for COVID-19 to determine if someone is infected and whether persons they've come in contact with be isolated.

"Testing works in our favor," Foggo said. "We can't afford to take anybody off the line in a day of Great Power Competition, where we have adversaries, competitors and, most importantly, we have violent extremists who take advantage of any chink in

the armor.”

In the future, “we’re going to have to plan ahead on how we’re going to protect the force against something like the coronavirus until we get a vaccine against COVID-19, and then beyond that there will be a next coronavirus, and I think we’ll be much better prepared for that in the future.”

Geurts: Accelerated Acquisitions Position Navy, Industry for Period After COVID-19 Crisis Wanes

An artist rendering of the Columbia-class ballistic missile submarine. The Navy's top acquisition official said April 15 during a Navy League Sea-Air-Space 2020: Virtual Edition webcast that work is proceeding on such programs as the Columbia SSBN and the next-generation guided-missile frigate, despite the disruption of COVID-19. U.S. Navy

ARLINGTON, Va. – The U.S. Navy's top acquisition official said the service's efforts to accelerate contract awards in the midst of the COVID-19 pandemic are helping the defense industry sustain its economic health at all levels and positioning the Navy and industry to emerge from the crisis without falling behind on work and ready to resume normal operations.

James F. Geurts, assistant secretary of the Navy for research, development and acquisition, speaking during an April 15 webcast of the Navy League's Sea-Air-Space: Virtual Edition, said the Navy and the defense industry are working to keep on task and be in a position to accelerate "out of the crisis."

To register and then watch this Sea-Air-Space 2020: Virtual Edition webinar live online, click here.

“Ships still have to come out on time,” Geurts said, noting that the Navy can’t afford to lag once the world starts to recover from the crisis.

Geurts said the Navy has moved up the award of some contracts to inject “a lot of money in the system” to “get funds in the contractor hands” and “bring that work to the left” – meaning getting in started sooner. An example is the award last week – months early – of LPD 31, the second Flight II San Antonio-class amphibious transport dock ship.

James F. Geurts (right), assistant secretary of the Navy for research, development and acquisition, and Sea-Air-Space 2020: Virtual Edition moderator Francis Rose discuss Navy and defense industry acquisitions preparedness during and after the pandemic.

Accelerating contract awards enables shipyards and other contractors to stack a backlog of work and keep their workers employed. The contractors also can push funds to their lower-tier subcontractors to the same effect.

Geurts said it was “counterintuitive … that the best way to

secure [the health of the defense industrial base] was to accelerate going into a crisis. Most folks would want to slow down, wait and see, and that would exactly create the wrong conditions."

"The risk is being too risk-averse in our approach. The other risk is being reckless in our approach."

> *"Ships still have to come out on time," even as the Navy and industry weather but eventually recover from the pandemic.*
>
> *James F. Geurts*

He said that all of stakeholders are going at the situation "deliberately but urgently and thoughtfully. A challenge for us will be [that] it's not a one-size-fits-all solution. This crisis hits different areas of the country, different sectors differently at different times. The key to success will be great networks, leveraging the data we have and building on a foundation of trust."

As the Navy worked to advance contract awards, Geurts said he saw his now "massively distributed," largely teleworking work force shows greatly improved performance as it works to help the defense industry get though the pandemic.

The Navy also is ordering spare parts sooner to build up the supply and to shore up the suppliers who provide them.

Geurts said he confers with shipyard presidents or CEOs every other day to assess the status of work and provide opportunities to share lessons learned and to discuss best practices, ways to avoid disruption and how to speed up recovery.

"It's been awesome," he said of the response from the defense industry.

The assistant secretary said the Navy's acquisition priorities

have not changed in the pandemic, citing that work is proceeding on such programs as the Columbia-class ballistic-missile submarine and the next-generation guided-missile frigate. He stressed the Navy's ongoing efforts to minimize delays and disruptions to the service's programs.

Jones Act Defenders Challenge Economic Arguments for Repealing Century-Old Law

The usefulness today of the 100-year-old Jones Act was the main topic of discussion during a webinar aired on April 14 as part of the Navy League's Sea-Air-Space 2020: Virtual Edition.
ARLINGTON, Va. — The 100-year-old Jones Act is far from an outdated law that keeps shipping prices high and hurts the nation's economy, a panel of maritime policy experts argued on April 14.

“The biggest misconception of the Jones Act is the cost impact, the final cost to delivered goods,” John McCown, founder of Blue Alpha Capital, a maritime financial services firm, said on a webcast for Navy League’s Sea-Air-Space 2020: Virtual Edition. “Many of the critics have distorted what that number is, cherry picked it, taken it out of context,” McCown added.

To register and then watch this Sea-Air-Space 2020: Virtual Edition webinar live online, click here.

The Jones Act – also known as the Merchant Marine Act of 1920 – bars foreign-built, foreign-owned or foreign-flagged vessels from conducting coastal and inland waterway trade within the United States and between the United States and some of its territories such as Puerto Rico. The law also generally applies restrictions that effectively prohibit Jones Act-compliant ships from being overhauled at foreign shipyards. Ship crews must be composed of U.S. citizens or legal U.S. residents.

John McCown, founder of Blue Alpha Capital, a maritime financial services firm, joined the discussion on the Jones Act during a webcast for the Navy League’s Sea-Air-Space 2020:

Virtual Edition.
Opponents say it’s time to repeal the law because it has led to higher shipping costs, which pass along higher prices to vendors, retailers and consumers. They also maintain higher costs have driven the commercial shipbuilding industry overseas, leading to a smaller pool of qualified U.S. merchant mariners.

That claim has turned the Jones Act into a scapegoat for “all sorts of economic ills,” McCown said. He noted that after Hurricane Maria devastated Puerto Rico in 2017, critics claimed the Jones Act was strangling Puerto Rico’s economy and, without the law, there would be a 15% drop in consumer prices. Such a price cut “translates to $9 billion a year,” which, McCown said, was a ludicrous estimate many times the total annual revenue of the Jones Act.

> *“The biggest misconception of the Jones Act is the cost impact, the final cost to delivered goods. Many of the critics have distorted what that number is, cherry picked it, taken it out of context.”*
>
> *John McCown, founder of Blue Alpha Capital*

U.S. Navy and Coast Guard officials have defended the law, saying that without it, there would be no pool of U.S. noncombat ships – or trained American seafarers to man them – in a war or other national emergency. If cost becomes the deciding factor in maritime trade, leading to elimination of the Jones Act, then commerce on U.S. coastal waters and internal waterways like the Mississippi River would be taken over by another nation, most likely China, the second-biggest economy and shipbuilder in the world, and a “Great Power” competitor, proponents of the law argue.

Given medical supply shortages in the current COVID-19 pandemic, dependence on foreign vessels and foreign crews could pose not just a national security risk, but economic and

homeland security risks if the U.S. remains dependent on foreign supply chains, especially for medical equipment and pharmaceuticals, noted former Oklahoma Rep. Ernest Istook, a senior fellow at the Frontiers of Freedom, a conservative think tank. “If they decide to do something that might cut us off, then we are at their mercy,” he added.

MARAD’s Buzby: Readiness of Sealift, Ready Reserve Force Suffering

The U.S. Military Sealift Command large, medium speed roll-on/roll-off ship Benavidez transits the English Channel. U.S.

Navy/Mass Communication Specialist 3rd Class Jordan R. Bair
ARLINGTON, Va. — U.S. strategic sealift fleets need recapitalization and some increased manning to achieve the readiness that the nation needs to sustain its maritime power, the U.S. maritime administrator said April 14.

"The readiness is suffering," a fact that sealift stakeholders recognize, Maritime Administrator Mark H. Buzby said during a webcast that is part of the Navy League's Sea-Air-Space 2020: Virtual Edition.

To register and then watch this Sea-Air-Space 2020: Virtual Edition webinar live online, click here.

Buzby pointed out that rusting ships, obsolete equipment, unavailable parts and repairing and replacing ships are the materiel challenges faced by the Maritime Administration (MARAD) and the U.S. Navy's Military Sealift Command (MSC).

MARAD's Ready Reserve Force of 46 ships and MSC's 15 sealift ships all need recapitalization, Buzby added.

He said the federal government is taking three approaches to recapitalizing the fleets and that a combination of those "will help us renew the fleet":

- Extending the service lives of some existing ships to possibly 60 years.
- Replacing 25 to 26 ships with new or converted used vessels.
- Procuring built-for-purpose sealift ships "from the keel up."

Recruiting and retaining enough mariners remains a challenge as well, Buzby said. Commercial mariners in the U.S. Merchant Marine — including those in the Ready Reserve Force, on Maritime Security Program ships available for mobilization and the declining U.S.-flag merchant fleet — and the government's civilian mariners who work for the MSC are

part of the pool that man the sealift ships.

Maritime Administrator Mark H. Buzby participates in a webcast for the Navy League's Sea-Air-Space 2020: Virtual Edition

He said that 24 ships in the Ready Reserve Force are steam-powered, operated by a shrinking pool of technicians qualified to operate and maintain the obsolete propulsion system.

Buzby said the mariner pool is "enough for a steady state today" but inadequate for a substantial mobilization requirement.

Of help would be to place more merchant ships "under the U.S. flag so it gets the pool … where it needs to be," he added.

Building up the U.S.-flag merchant fleet is a considerable challenge, he said, because competitors such as China that have state-run enterprises can undercut the U.S. in terms of lower-cost shipbuilding and manning and can therefore compete more effectively for cargo business.

"We're asking our merchant marine to play on an unlevel playing field," he said.

Coast Guard: Illegal Fishing in Oceans a National Security Issue

Boarding officers from the U.S. Coast Guard and Canadian Conservation and Protection navigate to board a fishing vessel in the South Pacific in January 2019. Canadian Department of Fisheries and Oceans

WASHINGTON – Illegal, unreported and unregulated fishing (IUU) is a national security issue that threatens global economic order and the sovereignty of nations and that enforcement is over-stretched to counter the threat, U.S. officials said.

IUU includes fishing without a permit, catching over a legal limit, catching the wrong species and catching fish that are too small.

To register and then watch this Sea-Air-Space 2020: Virtual Edition webinar live online, click here.

Speaking during a Navy League Sea-Air-Space: Virtual Edition webcast on April 13, Rear Adm. Doug Fears, the Coast Guard's assistant commandant for response policy, said that IUU "is an issue of sovereignty and a national security issue because the competition for global fish stock and protein is ongoing."

Fears said the Coast Guard "is as an internationally trusted partner and is a supporter of an international rules-based governance structure that benefits each country that has an economic exclusion zone."

Rear Adm. Doug Fears (left), the U.S. Coast Guard's assistant commandant for response policy, and Dave Hogan, acting director of the Office of Marine Conservation with the U.S. State Department, discuss Illegal, unreported and unregulated fishing during a Navy League Sea-Air-Space: Virtual Edition webinar.

Dave Hogan, acting director of the Office of Marine

Conservation with the U.S. State Department, who also spoke during the Navy League webcast, said the State Department negotiates with international and regional partners to establish the rules to manage the fish stocks on the high seas in cooperation with the National Oceanic and Atmospheric Administration's Fisheries Service, the Coast Guard and other agencies.

"Each nation exercises sovereignty over its economic exclusion zone," Fears said. "When another nation violates that, [IUU] is harming the fish stock that may not be recoverable."

Fears also pointed out that some nations are engaging in aggressive behavior against others in driving away fishing boats of other nations that are legally fishing and thus violating the sovereignty of those nations. He cited a recent example of Chinese coast guard activity against an Indonesian fishing vessel. The U.S. Defense Department on April 9 called out China's coast guard for sinking a Vietnamese fishing vessel.

> *"The United States Coast Guard has the authorities, the capability, the global reach – we're trusted partners. Our model is a well-respected model. Our limiting factor is capacity."*
>
> *Rear Adm. Doug Fears*

Hogan said the United States has an ongoing dialogue with China on IUU issues. He said the State Department has asked China to "do better" with its distant-water fleet fishing in the waters of other countries.

He said IUU fishing is going on in all the world's oceans, and that the violators include stateless high-seas drift-net vessels in the North Pacific. Whereas most fishing companies worldwide are privately owned, China's are state-run.

“The United States Coast Guard has the authorities, the capability, the global reach — we’re trusted partners,” Fears said. “Our model is a well-respected model.”

“Our limiting factor is capacity,” he added. “While we operate around the world, we can’t operate in all the places that deserve the attention in IUU fishing.”

Fears cited the South China Sea, the waters off West Africa and the central and western Pacific and the Gulf of Mexico as prime areas where IUU occurs.

Hogan said the United States is still trying to find a multilateral solution to the competing claims in the South China Sea. He also said he encourages nations to cooperate, despite their disputes, so fish stocks aren’t depleted and that their own economic security and the environment aren’t undermined.

Fears said that IUU often is networked by organized crime, such as the drug cartels, which have “tentacles” in human trafficking and other smuggling operations. “A lot of the drug cartels and similar organizations monetize illicit activities, whatever they be,” he said.

Fears also said a Coast Guard presence is an effective counter to IUU fishing but that the sea service needs more ships, aircraft and personnel to project that presence.

COVID-19 Piles on Coast Guard’s Funding, Readiness

Challenges, Says Commandant

Coast Guard Petty Officer 3rd Class Evan Grills is fitted for an N95 respirator at Air Station Kodiak, Alaska, on March 24. Amid the COVID-19 pandemic, aircrews are taking additional measures to reduce potential exposure to the virus while also maintaining full mission readiness. U.S. Coast Guard/Petty Officer 1st Class Bradley Pigage

ARLINGTON, Va. — The U.S. Coast Guard, already facing longer term readiness and funding issues, is shifting manpower and equipment to meet the new challenge of the COVID-19 pandemic, the commandant of the Coast Guard told Navy League's Sea-Air-Space 2020: Virtual Edition on April 13.

With the novel coronavirus also forcing the U.S. Navy, Marine Corps, Army and Air Force to come up with new ways to shield the force while still protecting the nation, Adm. Karl Schultz said his primary focus is on "maintaining a ready, healthy workforce to accomplish the Coast Guard's primary missions" to facilitate the marine transportation system.

To register and then watch this Sea-Air-Space 2020: Virtual Edition webinar live online, click here.

See: As Part of Investments, Coast Guard Creates Major S.C. Base

"Right now, we're focused on people, readiness and enabling the economic prosperity and security of the nation," Schultz said, noting the Coast Guard's role as part of the Department of Homeland Security and its mission.

In addition to safeguarding the nation's 355 seaports and 25,000 miles of commercial waterways as well as conducting maritime search and rescue and counter-narcotics operations, the constantly moving COVID-19 challenge has added new obstacles like offloading tens of thousands of cruise ship passengers, some of them ill with the virus. Coast Guardsmen did so April 2, helping to escort the cruise ships Zaandam and Rotterdam to port in Port Everglades, Florida.

Commandant Adm. Karl Schultz participates in the Navy League's Sea-Air-Space: Virtual Edition.

Schultz also noted that there are between 75 and 100 commercial vessels in U.S. waters with as many as 100,000

crewmen on board who may need Coast Guard assistance at some point during the crisis.

Before the coronavirus outbreak, the Coast Guard was facing a readiness challenge with aging ships and aircraft, deteriorating infrastructure ashore and an information-technology system on "the brink of catastrophic failure," the commandant said in his State of the Coast Guard address in February.

> *"But the focus right now is [a] ready Coast Guard, men and women, to get into the fight and get after these COVID-19 challenges that are in our wheelhouse."*
>
> *Coast Guard Commandant Adm. Karl Schultz*

Schultz said thousands of Coast Guard personnel are now teleworkers because of social-distancing rules, but thousands more are still front-line operators in the air and on the water. "This is really showing just how critical this C5I [command, control, communications, computers, cyber and intelligence] issue is," Schultz said. "Clearly there's a money piece to this," he added. "We've got to stop patching old systems."

When he took command of the Coast Guard in June 2018, Schultz said his focus was on people – getting better facilities and equipment for them, an improved retirement system and recruiting for a more diverse force representative of the nation.

"People remains the absolute center of gravity for Coast Guard readiness," he said in a live-streamed question-and-answer session during Sea-Air-Space 2020: Virtual Edition.

"But the focus right now is [a] ready Coast Guard, men and women, to get into the fight and get after these COVID-19 challenges that are in our wheelhouse," he added.

The Sea-Air-Space 2020: Virtual Edition event was created after the annual live exposition had to be canceled due to a prohibition against large gatherings in the wake of the COVID-19 pandemic.

SAIC to Build Propulsion for Navy Mk48 Torpedo From Scratch

Sailors and Military Sealift Command civilian mariners work last year to transfer torpedoes to the Los-Angeles-class fast-attack submarine USS Topeka (SSN 754). The Navy is resuming manufacture of Mk48 torpedoes after a two-decade break and industrial capacity must be rebuilt. U.S. Navy/Mass Communication Specialist 3rd Class Alana M. Langdon

ARLINGTON,
Va. — With the U.S. Navy resuming manufacture of Mk48 torpedoes for its
submarines after a two-decade hiatus, the engineering effort to restore the industrial
capability to build the torpedo has required some resourcefulness on the part
of defense contractors.

SAIC won a competitive contract to build the torpedo's aft section, consisting of the propulsion section and the propeller, said Stephen Rigdon, SAIC vice president for programs in the Defense Systems Customer Group, speaking to *Seapower* on May 6 at the Navy League's Sea-Air-Space exposition in National Harbor, Maryland.

> *“The biggest challenge we faced is reinvigorating the supply chain, finding suppliers that can provide the assemblies that go inside this torpedo.”*
>
> *Stephen Rigdon of SAIC*

The guidance-and-control section is being built by Lockheed Martin. Rigdon said the warheads and fuel tanks in the middle section of the torpedo are on hand in the Navy’s inventory.

“This is a build-from-scratch program,” Rigdon said. “They haven’t been built since the mid-90s. The biggest challenge we faced is reinvigorating the supply chain, finding suppliers that can provide the assemblies that go inside this torpedo.”

He said there was no new technology in the propulsion sections, dating to the late 1980s and early 1990s. The Mk48 originally was built by Gould.

> *Our engineering and technical work ready the MK 48 Mod 7 for combat operations: https://t.co/z1hcQH1eXo #SAS2019 pic.twitter.com/Ib45gl5Qbh*
>
> *— SAIC (@SAICinc) April 29, 2019*

“We’re building this from a government print,” he said. “What we’re finding out in some cases is that if you build it to the print it doesn’t necessarily work

perfectly. If you go back to the ‘90s, there was a guy that worked for the company that knew how to do that. That person is retired now. So, it’s been an engineering challenge to figure those things out.”

“The Navy has programs underway to look at improved engines and things like that,” he said.

SAIC is under contract to build 95 propulsion sections for the Mk48, with two more options on the contract.

“The Navy may buy up to 199 more,” Rigdon said.

SAIC is building the torpedo assemblies at its facility in Bedford, Indiana.

Navy Developing Quad-Thruster Vehicle to Grab UUVs From the Sea

Timothy Currie, technical program manager for Aviation Systems at NAVSEA, shows off the ASQUID at Sea-Air-Space on May 8. Lisa Nipp.

Most talk about unmanned underwater vehicles centers around the sonar, battery, and other aspects of the technology and what it can do. But one effort would aim to improve the capability of UUVs by making them easier to recover.

It’s known as the Airborne Surface Quad Thruster Interface Device, or ASQUID, and it was on display at the Navy League’s annual Sea-Air-Space symposium on Wednesday.

Today, UUVs are recovered from the water via what is known as a Rigid-Hulled Inflatable Boat (RHIB), a small boat that must be manned by Sailors. But that can be dangerous, as it means human beings have to handle a UUV that can weigh upward of 800 pounds while at times battling rough seas. It’s also limiting, because RHIBs can only go so far from shore or ship.

ASQUID, however, is a recovery system that allows an MH-60S helicopter to lift them straight out of the sea, said Timothy Currie, technical program manager for aviation systems at Naval Surface Warfare Center Panama City.

“We designed this with internal funding,” he told *Seapower* following his presentation. “We attach it to an MH-60S helicopter, fly it out on station, lay it down and let it go.”

The device is used to recover Mk 18 mine countermeasures UUVs, but his office envisions making it adaptable to other systems.

It’s called a quad-thruster because it has four thrusters that a Sailor uses to control it, positioning it in place so that the UUV can be scooped up and lifted out of the water.

Currie says this technology could protect Sailors by keeping them out of the minefield.

“It’s a recovery device. I have really nothing to do with the [UUV] system itself,” he said. “This is a prototype we’d like to make scalable for all UUVs.

“Right now, they use a RHIB boat to take it out there really slowly, and anytime there’s a sea state, it starts moving around and gets really dangerous. This takes it much, much farther.” he added. “The biggest advantage is it takes the man out of the minefield.”