

Baltic Convergence: Region Emerges from Backwater to Potential Battleground



The San Antonio-class amphibious transport dock ship USS New York (LPD 21), enters the port of Gdynia, Poland during the exercise Baltic Operations 24 (BALTOPS), June 18, 2024. *Credit: U.S. NAVY | Mass Communication Specialist 2nd Class Jesse Turner*

Operators, strategists and policy experts met in Gdynia, Poland, for the 2024 Littoral Op-Tech workshop earlier this year. The symposium, conducted at the Polish Naval Academy on the shore of the Baltic Sea, examined threats, challenges and opportunities in the Baltic Sea, which have been amplified since Russia's invasion of Ukraine.

While presentations addressed emerging technologies and warfighting capabilities to fight and win in the extreme littoral maritime environment of the Baltic Sea, much of the

discussion explored the dynamic geopolitical situation, which is even more relevant due to the juxtaposition of Russia's aggression in Ukraine and the 75th anniversary of the NATO Alliance. The event was sponsored by Saab AB, MBDA, BAE Systems and EmbeddedArt.

The workshop focused on the convergence of strategy, policy, technology, operations and tactics. First and foremost was the geopolitical significance of Poland and the Baltic Sea.

Like other Baltic countries, Poland has memories of Russian incursions and occupation. Poland shares a land border with Belarus, Ukraine, Slovakia, Czechia, Germany, and the Russian enclave of Kaliningrad (only 90 minutes from Gdynia by road). It also shares a maritime boundary with Denmark and Sweden. The distance between Poland's naval base at Gdynia and Sweden's base at Karlskrona is about 200 nautical miles.

"The Littoral OpTech series of workshops are about learning from each other," said retired Swedish navy Captain Bo Wallander. "While littoral environments and maritime traffic varies, all navies that defend or operate in coastal waters share some similar challenges."

The war in Ukraine has had a profound impact on Poland and its neighbors. As host, Rear Admiral Tomasz Szubrychat, the academy's director commandant, commented on the important timing of the event.

"All of the Baltic Sea is part of the EU and NATO, except for Russia," Szubrychat said. "Each country has its own perspective regarding the complex threats in the Baltic. If we put each nation's knowledge together, and exchange ideas, we can have a more complete picture of the Baltic maritime security."

Rear Admiral Włodzimierz Kulagin, chief of Armaments Branch of the Polish Navy Inspectorate, said having the workshop in Poland while there is a war going on at its eastern border is

a statement of solidarity.

The region is a very complex operating environment, Kulagin said. “We have an enormous challenge of detecting threats in all dimensions; many non-state actors; a growing maritime infrastructure; and increased maritime commerce and traffic, and its importance for the Baltic Sea nations, but also the Russian economy.”



U.S. Marines with Combat Logistics Battalion 8, Combat Logistics Regiment 2, 2nd Marine Logistics Group, prepare to set out a General-Purpose High Speed Unmanned Surface Vehicle known as the “Reckless,” during exercise Baltic Operations 24, (BALTOPS 24) Camp Berga, Sweden, June 12, 2024. The watercraft is manufactured by Hydronalix, a technology company specializing in small surface robotic systems in austere conditions. Credit: *U.S. MARINE CORPS | Lance Cpl. Kanoa Thomas*

Kulagin spoke of the requirement for employing new technologies. The operational calculus has been adjusted with the entrance of Finland and Sweden into the NATO alliance, and the added value for defense, deterrence and mutual security

cooperation in the region, he said. "Enhanced cooperation and exchange of information to build maritime situational awareness is a starting point for each country. The crucial factor remains the same: our military reaction time."

Kulagin noted Ukraine is not presently a member of any alliance and is fighting alone on the battlefield against a great military power. "But Ukraine as a country is not alone, because we – the countries represented here at this conference – are here."

Kulagin pointed out that Poland is a logistics portal at the frontline. He also said Poland is participating in NATO task groups, operations and exercises, as well as the Combined Maritime Force (CMF) in the Persian Gulf, "to show our colors," and demonstrate Poland's commitment to this vital multi-national effort.

"The NATO strategy concept is about the prosperity and freedom of navigation," Kulagin said. "And this is this is exactly the reason that we decided to join the combined maritime forces in the Gulf."

Crucial for Security

After many years of being somewhat of a backwater, the Baltic Sea is now crucial for European and world security.

Professor James Bergeron, the political-military advisor for NATO's Allied Maritime Command in Northwood, United Kingdom, talked about how NATO is celebrating its 75th anniversary, but is still evolving, and continues to be both stable and "new, fresh and vulnerable.

"We started with 12 nations, when nuclear war was a distinct possibility, almost too distinct," Bergeron said. "Later, with the fall of the Berlin Wall and the collapse of the Soviet Union, Cold War ended, we shifted to crisis management operations, we focused on everything but Russia. The magic of

the institution is that it always feels like two steps away from collapse. We redesign it every five years, but in its essence, it does not change.”

For many years, Bergeron said the NATO maritime battlespace was the Atlantic and Mediterranean; the Black Sea and Baltic Sea were peripheral. “With the accessions of the former Soviet states, and most recently the accession of Finland and Sweden – which has changed the strategic importance of the Baltic – NATO now has to seriously consider the deterrence and defense of its allies and the water space of the Black Sea and Baltic Sea.”

Captain Jon Wessenberg, Finland’s defense attaché to Poland, said his navy has a simple purpose. “We are here to fight and save our country. We have that in our mind all the time. Now that we are a member of the NATO alliance, we are here to fight for our collective countries.”

Wessenberg said the sea lines of communications in the Baltic are critical for Finland. “Ninety percent of our traffic, by volume and value, goes by sea. It is the sea that allows Finland to live and survive. It’s the reason why we have a navy.”

Now, Wessenberg said, the balance of power in the Baltic has changed. In the Cold War, Russia and its Warsaw Pact nations were the dominant factor in the Baltic Sea. It was not the highest priority for NATO. The situation today has changed. Russia stands alone, and is isolated at St. Petersburg and Kaliningrad, with its sea lines of communications threatened by NATO.

“The overall political strategic situation here in Baltic is unfavorable for Russia. They are backed into a corner. And it’s because of Finland and Sweden joining NATO,” Wessenberg said. “For many years we have prepared for a long war alone. Now it’s quite nice to be part of the alliance.”

Brigadier General Patrik Gardensten, deputy commander of the Royal Swedish Navy, voiced a similar sentiment.

“As a nonaligned state for hundreds of years, we have had to rely on building a strong independent defense force to manage threats on our own in our area of operation. Even though our close defense cooperation with Finland always had made us stronger together.”



Private Wesley Van Meggelen of the Very Shallow Water Team of the Royal Netherlands Navy Maritime EOD detonates a charge June 10, for a training exercise during exercise Baltic Operations 2015. *Credit: U.S. NAVY | Mass Communication Specialist 2nd Class John Callahan*

Although Sweden had participated in NATO’s “Partnership for Peace” since 1994, the Russian invasion of Ukraine demonstrated to the country that a real threat to its security was imminent, and the nation applied for full membership in the alliance.

“The threat in this environment, both conventional and hybrid, projected by Russia today and tomorrow must be handled,”

Gardensten said.

Technology Challenges

Addressing the technology front, Eric Olsson, a retired Royal Swedish Navy officer representing Embeddedart AB, said unmanned and autonomous systems face challenges in all domains, but he emphasized the increased difficulties of operating unmanned systems underwater.

“We need autonomous vehicles on the surface to be the communication link between subsurface vehicles and the above water networks and be the link to the kinetic effectors to bring effective power into the battle space,” he said.

Olsson foresees the use of artificial intelligence-based decision making to improve the navigation of unmanned underwater vehicles, and to better manage the amount of data and information to transfer between the sensor and operators.

Dr. Roger Berg, the director of technology management at Saab Kockums, is responsible for research and development, university collaboration, technology strategies and product management. He talked about “disruption” and the innovation or business models that have drastically changed the market or market behavior.

“We have seen in Ukraine a lot of these different kinds of disruptions in technology, systems, tactics, and how things behave,” Berg said. “It has changed warfare forever.”

Berg said the vulnerabilities of GPS positioning have been countered by new kinds of precision navigation and timing; inexpensive drones have replaced exquisite sensors and weapons delivery systems; and hand-held devices can now call for fire support in a fraction of the time it used to take to get permission to shoot.

In addition to its status as a frontline warfighting

environment, the United States also looks at the Baltic Sea as a realistic laboratory for trying out new technologies and warfighting concepts.

The Department of the Navy has used Small Business Innovation Research funding to have Marines test and evaluate small, low-cost unmanned surface vessels from Green River, Arizona-based Hydronalix, for sensing, mobile gateway buoys to connect underwater sensors with above water networks, and logistics support in austere operating conditions.

Hydronalix CEO Anthony Mulligan discussed how disruptive technologies innovative capabilities don't have to be exquisite or expensive, and can be integrated into exercises to allow warfighters to try them. Mulligan's company exemplifies the value of the SBIR program, which invests in small companies to quickly develop and test new technologies and concepts in exercises like BALTOPS, Archipelago Endeavor in Sweden and Freezing Winds in Finland.

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Tethered Drone Extends Line-of-Sight Communications for Surface Platforms



C-TEM provides extended sensor, network, and communications capabilities to meet the operational needs of the hybrid fleet. The containerized system is self-contained, takes up minimal space, and requires little human intervention. *General Dynamics Mission Systems*

General Dynamics Mission Systems' Containerized Tethered Elevated Mast (C-TEM) shipboard tethered unmanned aerial system solution will extend line-of-sight communication for U.S. Navy ships and unmanned surface vessels.

General Dynamics Mission Systems is a mission integrator for the Navy's hybrid fleet of manned and unmanned platforms. The company is partnering with Dragonfly Pictures Inc. (DPI), a small business based in Essington, Pennsylvania, for the C-TEM program.

According to Scott Beauchemin, vice president for Surface Systems at General Dynamics Mission Systems, there are many advantages of a tethered drone to elevate a sensor, especially in contested environments.

"C-TEM use cases are only limited by the warfighter's

imagination,” Beauchemin said.

“C-TEM extends sensor, network and communications capabilities on an as-needed basis. With all-weather, long-endurance mission support, automated flight control and a low visual signature in-flight, C-TEM is ideal for both manned surface platforms and unmanned surface vessels, which will become more and more prevalent in the U.S. Navy’s fleet,” Beauchemin said. “In addition to its encrypted high-bandwidth data exchange capability, C-TEM can also be outfitted with numerous capability packages, ranging from radar, electronic warfare, counter UAS, ISR [Intelligence, surveillance, and reconnaissance], and other missions.”

Beauchemin said C-TEM can be quickly deployed and retrieved for continuous sustained operations in all weather conditions. The containerized system is easy to install and requires minimal integration to existing systems.

“Terrestrial communications remain a critical tool for digital connectivity for manned and unmanned vehicles. Elevating antennas from moving platforms is no easy task as it requires a well-coordinated dance between air-sea platforms,” said Mike Piasecki, DPI’s president. “We believe C-TEM systems can have meaningful impact on future naval unmanned maritime missions around the globe.”

The aircraft weighs 55 pounds with a 15-pound payload installed and can fly as high as 500 feet above the launch platform. The system requires very little operator intervention. Station keeping and sensor direction is managed autonomously, and safe recovery protocols are automatic.

The C-TEM contract was awarded to General Dynamic Mission Systems in June 2022 via the Unmanned Surface Vehicle Family of Systems multiple award contract by the Naval Sea Systems Command in Washington, D.C. The contract, including options if exercised, has a cumulative value of \$39.4 million.

Littoral OpTech Workshop Will Examine Operational, Geopolitical Challenges in Baltic Sea



The Polish Navy, Oliver Hazard Perry-class guided-missile frigate ORP General Tadeusz Kosciuszko (273), departs for sea in support of BALTOPS 23. BALTOPS 23 is the premier maritime-focused exercise in the Baltic Region. *U.S. Navy | Mass Communication Specialist 2nd Class Mario Coto*

The 2024 Littoral OpTech workshop, an invitation-only event, will be held May 21-22 at the Polish Naval Academy in Gdynia, Poland. Participants will listen to a number of speakers and panels exploring the current trends in operational, economic and geo-political environment in and around the Baltic Sea.

According to retired Swedish Navy Captain Bo Wallander, the event moderator, Littoral OpTech workshops are typically two-day conferences that bring together key partners and advanced technical and operational expertise to explore and identify the technologies that will enable effective littoral operations.

“The workshops expand the growing global community of interest and garner stakeholder support for addressing the technical challenges in the world’s littorals,” Wallander said.

Wallander described the maritime littorals as “a very complex environment with limited space where it is easy to hide and difficult to detect targets. This means very short reaction times. The proximity to islands and shores means a broad spectrum of threats in all domains. The littorals are also characterized as having a great number of non-military actors like merchant ships, fishing and pleasure boats.”

Wallander referred to the Baltic Sea, in particular, as an “extreme littoral.”

“What makes the Baltic Sea special are the short distances in an east-west direction and the large archipelagos in both Finland and Sweden. There are different currents and counter currents; varying sea bottom topography, water salinity and temperatures,” he said.

Wallander said the workshop will focus on both operations, political issues and technologies with an emphasis on Northern Europe and the evolving security concerns in Northern Europe, as well as the importance of the fact that both Sweden and Finland have become NATO allies.

The last Littoral OpTech workshop was held in Helsinki, Finland, and also focused on the Baltic Sea. Besides the 2022 event in Finland, previous Littoral OpTech seminars, colloquiums and workshops have been held in Monterey, California; Stockholm, Sweden; Tokyo, Japan; Cartagena,

Colombia; Halifax, Canada; and Souda Bay, Crete, Greece.

Wallander said the Polish Naval Academy is working together with the Swedish defense company Saab to host the 2024 workshop.

“The naval academy is located in a very a very significant historical area,” Wallander said. “Gdynia is also an important base for the Polish navy.”

“This area of the world continues to be of great geopolitical, economic and military importance,” Wallander said. “The Baltic Sea is both a very sensitive environment and an important transport link for the Russian Federation. Since the last OpTech event the war in Ukraine has raged on, and both Finland and Sweden have become full-fledged members of NATO.”



The Polish Naval Academy in Gdynia will host the 2024 Littoral OpTech workshop. *Polish Naval Academy*

Poland is situated on the Baltic Sea, with a 328-mile mostly sandy coastline. The country was under Soviet domination after World War II and was a charter member of the Warsaw Pact from

1955 to 1991. In 1999, Poland joined Czechia and Hungary to become the first former members of the Warsaw Pact to join NATO.

The Baltic Sea is an arm of the Atlantic Ocean enclosed by Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Sweden and Russia, with a coastline of approximately 5,000 miles. Today, all of those countries are part of the NATO Alliance, except Russia. Russia's Baltic Sea exclave of Kaliningrad is surrounded by Poland to the south and Lithuania to the north and east.

Polish Naval Academy

The Littoral OpTech workshop will be hosted by the Polish Naval Academy, which is named after the "the Heroes of the Westerplatte." The academy offers both civil and military undergraduate and graduate study programs. The name refers to the 1939 battle at the Westerplatte peninsula when the Polish forces fought off a vastly superior German army. The battle is revered as a symbol of resistance in modern Poland.

The Polish navy was established in 1918. The academy was established soon after, in 1922. It has been in continuous operation, albeit under different names, ever since. The school is currently under the command of Rector-Commandant Rear Admiral Professor Tomasz Szubrycht.

The undergraduate and graduate courses are taught in Polish and English, and a number of international students attending the school. The military cadets receive commissions in the Polish military upon graduation, mostly in the navy. There are also serving officers working on graduate degrees.

Today, the Polish navy consists of about 12,000 commissioned and enlisted personnel, many of them serving aboard the service's 46 ships.

The Polish Navy's two largest surface combatants ORP General

Kazimierz Pulaski and ORP General Tadeusz Kościuszko, are the former U.S. Navy Oliver Hazard Perry-class guided missile frigates USS Clark (FFG 11) and USS Wadsworth (FFG 9). The service is ordering new Arrowhead 140 frigates, to be delivered by Polish Armament Group in cooperation with Babcock, U.K.

A Day to Remember

This is the anniversary of the 9/11 terrorist attacks on America, and on the world.

Once again, it is a day to reflect and remember. In fact, we who experienced the events of that day in any way must remember and share, lest we not forget. If you don't know about what happened that day, then you must become educated, and made aware of the events of that day in New York, Washington and Somerset County, Pennsylvania. It was an attack driven by hate, and an attack on all of us.

There is a saying that you die three times: when you take your last breath; when they cover your grave after your funeral; and when your name is uttered for the last time.

This is what I remember, and what I choose to reflect upon every year on this day. You will indulge me, I hope, because it is necessary for me to share this with others and share it every year on this day for as long as I can do so. It is the least I can do for a shipmate.

So, join me in saying his name: Michael Noeth.

*** Linseed oil:

Some things have an evocative smell.

When I was in command of the Naval Media Center in Washington, D.C., the executive officer of a ship based at Pearl Harbor – USS *Russell* (DDG 59) – called my staff at *All Hands* magazine in our Publishing Department. The XO had a Sailor aboard the ship who wanted to be a draftsman.

The “undesigned seamen” or SNs on a ship usually work in the deck force, chipping paint and handling lines. As they see what professional opportunities are available on board their ship, they can “strike” for a rating, like Radioman or Quartermaster. A “Striker Board” will convene and review the needs of the ship, and the desires of the individual. If the Sailor is squared away, has done a good job with the deck force and the ship needs a Quartermaster (QM), for example, he or she can strike for that rating, and becomes a QMSN.

Seaman Michael Noeth wanted to be a Draftsman. The DM rating was one of the smallest ratings in the Navy. There were very few of them compared to Gunner’s Mates or Machinist’s Mates, and certainly none aboard a surface combatant. In fact, today the rating has been disestablished and the functions combined into the Mass Communications Specialist (MC) rating.

In this case, the executive officer wanted to do something good for his Sailor. And this was extraordinary, because USS *Russell* was about to depart on deployment. In spite of the fact that the ship was about to be on cruise for six months, the XO called us and asked if his Sailor could come and work with us to learn the DM rating so he would be prepared to take the DM test for Third Class Petty Officer. If he passed, he could become a DM3. If not, he could return to the ship and eventually strike for another rating. For our part of the deal, we had to cover his travel expenses. We said yes.

There are never enough Sailors in the Deck Force, especially on deployment, but the XO wanted to help a Sailor. So, SN Michael Noeth came to work for us in the Publishing Department at the Naval Media Center in Washington, D.C.

He was placed under the expert tutelage of our Draftsman First Class (DM1) Rhea Mackenzie. Seaman Noeth quickly made himself at home in a back corner of the *All Hands* magazine production spaces. And it was here he set up his easels, canvasses and paints. When I would come by – which was often, because I was always wandering around Building 168 to see all of the interesting stories and projects our people were working on – I could smell the linseed oil he used for his brushes long before I reached his work area. He would have various canvasses and illustrations in various stages of completion posted around his desk, as well as examples of artwork he admired or wanted to emulate.

As one of the 450 men and women of the Naval Media Center, he learned his trade from an experienced draftsman, created artistic content for *All Hands* magazine, and became a well-liked and contributing member of the command. At our Halloween party, he came in second place in our costume contest. He was a dead ringer “Alex” from *Clockwork Orange*, and was topped only by an even more convincing Cruella Deville from *101 Dalmatians*.

Whenever I got near his work area, I would be greeted by the smell of his linseed oil, and I knew I would be in for some kind of surprise. Seaman Noeth painted the cover for several issues of *All Hands* magazine (such as the one with a cut-out porthole that opened to an ocean panorama. To see him tackle these assignments was a joy, probably because he was enjoying his work, and appreciative of the opportunity. On my visits, I would see the many versions and sketches he was working on, and I could see it all come together with the finished product.

He took the advancement exam and passed it. As his six-month temporary assignment came to an end, his command allowed him to transfer to my command on a permanent basis as they did not have any billets for a draftsman, and we did. Soon, he moved on to other Navy assignments as a Draftsman, all because his

ship wanted to give him a chance to realize his dream, and my command wanted to help him get there. We felt good about helping him attain his goal. But most of all, because he was a Sailor who deserved it.

He did, indeed, become a talented Navy illustrator and draftsman. He served aboard amphibious assault ship USS *Wasp* (LHD 1), and was later assigned to the Navy Command Center where he skillfully created briefings and presentations for Navy leadership. He was doing just that on September 11, 2001, when terrorists forced an airliner to crash into that building.

We must not forget. So, I choose to remember a bright, ambitious, creative young striker today, and whenever I smell linseed oil.

We will continue to speak his name.

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Please also see:

<https://allhands.navy.mil/Stories/Display-Story/Article/1839561/we-will-never-forget/>

https://www.washingtonpost.com/wp-srv/metro/specials/attacked/victims/v_358.html

<https://pentagonmemorial.org/explore/biographies/dm2-michael-noeth-usn>



**Indo-Pacific Maritime
Security Exchange will
examine emerging capabilities
and capacity**



Highlight of the 2022 IMSE was the panel of commanding officers sharing their experiences in the just-completed RIMPAC 2022 exercise. Focused on interoperability and information sharing, the panel included ship commanding officers from Royal Malaysian Navy, Royal Australian Navy; Republic of Korea Navy; Philippine Navy; and US Coast Guard. (Navy League Honolulu Chapter photo)

[Attend this event online](#)

The Honolulu Council of the Navy League is once again hosting the Indo-Pacific Maritime Security Exchange (IMSE), a conference that brings voices from the Indo-Pacific together to discuss maritime security issues in the region. The event will take place August 3rd and 4th as an online symposium.

“Our agenda is designed to stimulate a conversation,” said Larry Osborn, a retired Navy captain and president of the Navy League’s Pacific Region.

In a basic sense, [IMSE looks at maritime security](#) in its four key elements: freedom of navigation, unrestricted flow of

commerce, the protection of ocean resources, and the exclusive rights of sovereign nations in their Exclusive Economic Zones (EEZs); an overarching theme is building partnerships for security, stability, and prosperity. IMSE will feature senior maritime leaders and subject matter experts from the region as speakers and panelists examining a broad range of topics to include the strengthening of multi-national maritime military capability, capacity building efforts that include security assistance and cooperation, law-enforcement on the high seas, and diplomatic efforts.

According to the IMSE website, nearly all of the thirty-six countries that comprise the Indo-Pacific region are maritime nations. The region contains nine of the ten busiest seaports in the world and more than half of global maritime trade transits the region. The national sovereignty and economic well-being of nations in the region are dependent on the maintenance of the [rule of law and international norms](#) on the high seas as described in the United Nations Convention on the Law of the Sea. Today this rule of law is being challenged by expansionist territorial claims in the South China Sea, harassment of foreign vessels in international waters, and IUU fishing. Countering these threats to maritime security in the region requires the collaborative efforts of like-minded nations in the military, diplomatic, law-enforcement, and commercial arenas.

Osborn said the IMSE team strives to have half of the speakers be representatives from the various countries in the region. “Specifically, we want to give a voice to all the nations large and small to include Pacific Islanders, as well as some of the more some of the larger nations, like Japan, or the Republic of Korea. Collectively, our peace, security and prosperity are dependent on the seas.”

The 2023 conference content will be divided into three segments. “The first segment is going to look at illegal, unreported, and unregulated (IUU) fishing and its nexus with

transnational crime. The second segment will examine the various treaties, alliances and affiliations in the region and how they interplay. In our third segment, we will focus on emerging maritime capabilities, starting with the People's Liberation Army Navy (PLAN) and the Chinese Maritime Militia. We'll also look at some of the navies in the region to include Japan, Republic of Korea, Australia, and others. And I think each of them has a story to tell about their navies and their emerging capabilities and capacity," said Osborn.

As examples, Osborn points to India's indigenous aircraft carrier; acquisition of MH 60 Romeo helicopters and P-8I Poseidon maritime patrol aircraft, which will give them enhanced anti-submarine warfare capability, as well as a future buy of "Multi-Role Carrier-Borne Fighters."

"India occupies a very strategic position on the sea lanes between Asia and the Middle East and Europe. And they are expanding their ability to keep those sea lanes open and secure," he said. "Japan has announced that they're going to develop counter strike capability and they're also enhancing their destroyer fleet with anti-ballistic missile capabilities. The Republic of Korea is building large amphibious ships to respond anywhere in the region to a crisis or humanitarian disaster. Taiwan has an indigenous frigate construction program underway to replace their mostly-hand-me-down surface combatants and is building eight submarines of its own design. There are other examples, too, in the region."

Another facet of emerging capabilities is in the arena of maritime domain awareness. "We'll be looking at the technologies involved in delivering maritime domain awareness, from aggregators and processors to collectors and sensors," Osborn said.

In the final series of panels, senior maritime leaders will examine the increased transparency of the oceans and how to

make sense of it or act upon it.

The attendees will learn about “fusion centers” such as the Information Fusion Centre (IFC) is a regional Maritime Security (MARSEC) center hosted by Singapore, and the Information Fusion Centre – Indian Ocean region, hosted by India. “We’ll discuss the foundation of the technologies that make these fusion centers work, and how operators and data are brought together.”

“Today’s operators are faced with huge amounts of data, but with the right analytical tools, including artificial intelligence, they can detect anomalies and draw an operator’s attention to where it needs to be, and determine the best course of action,” said Osborn.

According to Osborn, the content will appeal to a broad audience. “Anybody interested in maritime security or sustainable fishing, will find the conference content very compelling.”

He said the on-line format makes it easy to attend, “No matter where you are in the world, you can log-in and see the most recent content or see other material that has already been posted.”

The cost to register is just \$15.00, but Navy League members can register for free.

The major sponsor for this year’s IMSE is the U.S. Agency for International Development (USAID), which has a large interest in protecting sustainable fishing for coastal nations.

For more information: <https://www.imsehawaii.org/>

To register: <https://www.imsehawaii.org/registration.html>



181115-N-NU281-1050 HONOLULU (Nov. 15, 2018) Retired U.S. Navy Capt. Larry Osborn, Navy League President, Honolulu Council, delivers remarks at the 58th Annual Sea Services Awards ceremony. The event honors top performers in the U.S. Navy, Marine Corps and Coast Guard. (U.S. Navy photo by Mass Communication Specialist 2nd Class Justin R. Pacheco)

Cold Waters Spark Warm Relationship

[SEA_Apr23_Cold-Waters-002Download](#)

Small Businesses Make Big Waves



The demand for small business innovation, technology, and solutions has never been higher

If rural western Massachusetts looks like something out of a Norman Rockwell painting, it's because that's where Rockwell kept his studio. But in addition to the picturesque college towns, quaint villages, covered bridges, and magnificent scenery, the region also has a long history of heavy industry that dates to the industrial revolution. These industries historically harnessed rivers for power and created mill towns that made textiles, paper, leather goods, electrical components, automobiles, and guns.

Pittsfield, Massachusetts is located 40 miles from Albany, New York and 140 miles from Boston. With a population of about 44,000, it is the county seat of Berkshire County (pop. 129,000). For many years the town's business was defined by its largest employer, the General Electric Company, which manufactured transformers, electronics and plastics, and

employed 10,000 workers. Like much of western Massachusetts' heavy industry, it has moved elsewhere.

When General Electric left, it took many good paying jobs with it. But today, General Dynamics Mission Systems (GDMS) has a large, state-of-the-art facility involved in the design and manufacturing of complex electronics for defense purposes, such as submarine combat systems. In fact, General Dynamics' business is growing, attracting new and highly skilled workers, and providing an economic engine for Pittsfield and its surrounding communities.

Global Threats Push Innovation

According to Ann Rusher, GDMS vice president of supply chain management, there have been unprecedented changes in the national security business, largely because, "China and Russia are introducing new technology and new capability at an alarming rate."

To counter that trend, Rusher said defense companies have had to accelerate the pace of innovation to work closely and more collaboratively with smaller businesses, including those that have not previously worked in the defense sector. "We need that innovative spirit and agility that small businesses can bring."

To accomplish that, GDMS is fostering better ties with the community and its supplier base. The company brought together vendors and partners – particularly small businesses – to the Berkshire Innovation Center (BIC) for a "Supplier Day."

Rusher said the event was aimed at reestablishing connections and relationships, and to make small companies aware of the resources in and around the Pittsfield area, as well as across the country, to help them, "learn about, grow, and partner with us."

She said that big companies like General Dynamics truly rely

on small companies, with their innovation and agility. Rusher said that today, more than 60% of GDMS current active supplier base are small businesses. “We added 104 small businesses to our active database just in 2021. And across all categories of small business, we’ve increased our spend over the last five years by over 15%. And every single one of the categories of small business – the HUBZone, service disabilities, veterans, and women owned – they’ve all been increasing, from five percent all the way to doubling.”

Supply Chain Challenges

Rusher said General Dynamics not only wants to foster relationships between the company and small businesses, but also wants to facilitate the growth of those small businesses so that they can provide support to the entire defense industry. “By doing that, we can be a force multiplier for the government, and we can bring that innovative spirit, not just to us, but to the to the betterment of the country.”

“We’re a very successful company with an extremely talented workforce, but sometimes we need partners to help to solve some difficult problems,” Rusher said. “Not only have these small companies helped us solve tough technical issues, but they often bring a technology or a capability that’s so unique and state-of-the-art that when combined with the mission knowledge that General Dynamics has, it really is the differentiator to solve a problem and deliver exceptional capability.”

However, while the demand for innovative technology and solutions has never been higher, the number of small companies in the defense sector has declined precipitously.

According to *Inside Cybersecurity*, Deputy Assistant Secretary of Defense for Industrial Policy Jesse Salazar acknowledged that small businesses are under immense market pressures.

“The number of DIB (defense industrial base) small businesses

has shrunk by more than 40 percent over the past decade,” Salazar said. “One of seven believe they will never return to pre-pandemic levels of performance.”

“Just when we need them the most, the supply chain is shrinking,” Rusher said.

Rusher admits that it might be a little intimidating for a small company to establish a relationship and work with a large defense contractor like General Dynamics. “It might even be tempting to think that we like to go it alone. True, General Dynamics can do a lot of things. And we can do many of the things that perhaps a small business could do. But the reality is the small businesses we work with bring something very different, and way more than what we can do by ourselves,” she said.

“We don’t just want to work with you; we need to work with you,” she said to the Supplier Day attendees.

BIC Innovation Hub

The BIC in Pittsfield is a multimillion-dollar collaborative initiative between the Commonwealth of Massachusetts, private industry, local colleges, and local government that opened in 2020. BIC serves as a confluence of technology and ideas. It offers conference rooms, offices and laboratory space, all designed to bring people together so they share knowledge and expertise to address challenges and seize opportunities.

“We offer world-class research and development facilities and equipment, interactive training and conference facilities, and shared access to advanced technology for local manufacturers,” said Ben Sosne, BIC’s executive director. “We can do more together.”

Innovation centers like the BIC can offer online advanced manufacturing courses and access to content that serves companies and students, both locally and elsewhere. When

potential employees learn about the technology being developed in the Pittsfield area, it can attract new qualified workers to companies like General Dynamics.

According to Sosne, a workforce with higher digital skills can command higher wages, but it also attracts more employers looking for people with those skills. "When we have a pipeline of new talent through apprenticeships, and the adoption of new technology, the higher the wages you can offer, and the more that you can attract that new talent. By working with local employers like General Dynamics and developing a curriculum that teaches methods and processes that meet their needs, you are essentially graduating an industry-ready group of engineering professionals and technologists."

"Employers like General Dynamics are an economic engine and a jobs-multiplier," said Benjamin Lamb Director of Economic Development with 1Berkshire. "One manufacturing job in the Berkshires supports 4.8 other jobs in the county."

The official regional economic development organization and regional tourism council of Berkshire County, 1Berkshire, represents the Berkshire business community and offers a powerful network of resources for members and companies. "This is where the synergy of marketing and economic development within the same organization in the same building with the same team can become very powerful," said Lamb.

Small Businesses are Essential Partners

"General Dynamics designs, engineers and makes all kinds of systems that are used for national security, so we take a lot of pride in that," said Pittsfield Mayor Linda Tyer. "They are an essential partner here in the city of Pittsfield and throughout the Berkshires. They are a large employer, providing 1,600 skilled jobs for our community. But there are many opportunities for our small companies to be part of the supply chain that serves General Dynamics, so that we are

strengthening the economy here in Pittsfield and the Berkshires. Our plastics manufacturers and engineering companies help provide plenty of opportunity for those small businesses to benefit from the presence of General Dynamics.”

Tyer said that workforce development is an essential part of the future and the success of General Dynamics and small businesses, no matter what kind of work they are doing. “It’s incumbent upon academic institutions like our community colleges and four-year colleges, as well as institutions like the Berkshire Innovation Center (BIC), as well as the state agencies that provide workforce training opportunities and internship programs, to make sure they are partnering with each other and the employers who need talent and have the job opportunities,” she said. “That’s why having the BIC here is so important to the future of the innovation economy here in Pittsfield.”

State Representative Tricia Farley-Bouvier, who represents Pittsfield, agrees. “General Dynamics reaches throughout the region to bring new talent to the Berkshires, not only with intellect and their skills, but the energy that they bring to our community. They spend their dollars in the outdoors and arts economy and in our shops and cafes, and volunteer in the Berkshire County. We want to ensure that we have a reliable local supply chain for this global company of General Dynamics, and ensure that the pipeline is a short one,” she said. “I think workforce development is the biggest challenge right now, and that’s across the board in every industry here in western Massachusetts. But we’re very well positioned in Berkshire County because our high schools are producing really good workers and launching them into STEM careers, and that is an excellent source of talent for General Dynamics.”

Farley-Bouvier cautioned that General Dynamics can’t stand back and wait for the workforce to come to them. “General Dynamics has been and needs to continue to be part of that solution. They need to continue to be in at Taconic High

School, MCLA (Massachusetts College of Liberal Arts), and Berkshire Community College and be part of those solutions. One of the most successful things that General Dynamics has done, and other smaller companies around Berkshire County have copied, is to provide paid internships. Paid internships are critically important because they level the playing field. It used to be that everybody took unpaid internships because there weren't a lot of jobs out there. But the only people who could take an unpaid internship were those students whose families could support them. The young people who were economically distressed had to take those low paying service jobs over the summer because they had to pay their bills," she said.

"Fortunately, General Dynamics is really invested in these students, and it's paid off for them," said Farley-Bouvier. "And we need to do a lot more of that to ensure that we have a reliable local supply chain for this global company of General Dynamics."

Layer by Layer: 3D Printing is Navy's Flexible Supply Source

Featured in Seapower Magazine Feb/March Issue (p. 21)

[Layer by Layer \(click here to view on mobile\)Download](#)

U.S. Navy Surface Warfare Tactics Instructors (WTIs) to Converge in Washington



U.S. Navy Surface Warfare Tactics Instructors (WTIs) are converging in Washington for a conference January 9-12. The conference, known as a “Re-Blue,” is coordinated and hosted by the Naval Surface and Mine Warfighting Development Center (SMWDC), who leads the Surface Warfare WTI program.

Trained and Qualified Instructors

WTIs are highly trained and qualified surface warfare officers who have specialized knowledge and expertise in one of the warfighting areas of integrated air and missile defense (IAMD): anti-submarine and anti-surface warfare (ASW/ASUW), mine warfare (MIW), and amphibious warfare (AMW). WTIs provide their commanding officers with tactical expertise and provide advanced training to warfighting teams.

About 130 WTIs are expected to participate.

Leadership, Technology, and Skills

While at the Pentagon, the WTIs will hear keynote remarks from leadership across the surface force, have an opportunity to refresh their knowledge on updated tactics, and receive briefings on best practices from SWMDC’s flagship underway training, SWATT – Surface Warfare Advanced Tactical Training.

The conference is taking place with the Surface Navy Association’s 35th Annual Symposium in nearby Crystal City, Va., allowing the WTIs to hear from Navy and Marine Corps leaders and see the latest in products and technologies from

exhibiting companies.

“Our WTIs are assigned across the fleet in various shore and afloat billets, some as the only WTI at a command,” said Rear Adm. Christopher Alexander, SMWDC Commander. “I’m looking forward to giving everyone the opportunity to come together with the greater WTI cadre, refresh their knowledge on the latest in surface tactics, and at the same time offer them the opportunity to attend SNA’s Annual Symposium.”

Maintaining a Competitive Edge

WTIs help maintain the competitive edge of the surface fleet and are the foundation of SMWDC’s five lines of efforts:

- Warfare tactic instructor production
- Advanced tactical training
- Doctrine and tactical guidance development
- Operation support to combatant commanders, numbered fleet commanders, and task force commanders
- Capability assessments, experimentation, and future requirements

The program is open to all qualified surface warfare officers in paygrades O1 to O4. Chief warrant officers and limited duty officers may also apply to the program.

Naval Postgraduate School and Stanford University Formalize Partnership to Address Global

Climate Change, Energy Security and Sustainability



Secretary of the Navy Carlos De Toro was on hand for the signing of an Education Partnership Agreement between the Naval Postgraduate School (NPS) and the Stanford Doerr School of Sustainability on Dec. 15. *U.S. NAVY / Javier Chagoya*

MONTEREY, Calif. – The Naval Postgraduate School (NPS) and Stanford University Doerr School of Sustainability have created a formal partnership to address the challenging issues of global climate change, energy security and sustainability.

The announcement was made on Dec. 15 at the NPS campus in Monterey, California.

The Education Partnership Agreement (EPA) was signed by NPS President Vice Adm. (ret.) Ann E. Rondeau and Dr. Arun Majumdar, dean of the Doerr School of Sustainability, during a ceremony that was presided over by Secretary of the Navy Carlos Del Toro.

“Bold climate action is a mission imperative for the Department of the Navy, and we must harness all of the tools at our disposal in order to make urgently needed change,” said Del Toro. “This collaboration between the Naval Postgraduate School and Stanford University will bring together two globally recognized hubs of research and innovation, focused on realizing solutions that our Navy and our nation can employ now and in the future.”

According to a press release from NPS, the Navy’s climate strategy highlights two major performance goals in its response: building climate resilience and reducing climate threats. But, the release said, it also underlines the importance of leveraging and empowering the education of Sailors and Marines to meet the challenges of climate and energy security and sustainability through knowledge and innovation.

“The combination of expertise, operational experience, education and entrepreneurship in this partnership with Stanford and their Doerr School of Sustainability is truly unique and a powerful contribution to the global climate challenges ahead of us all,” said Rondeau.

The NPS Climate and Security Network (CSN) brings together the school’s collective expertise on climate security and creates opportunities for interdisciplinary collaboration and information sharing. Through the CSN’s efforts, NPS student and faculty have contributed to the development of key climate strategies and plans within the Department of Defense and conduct research to inform future force design, force generation and deployment considerations.

The Doerr School is a new addition to the Stanford campus. Launched in May 2022, the school works with local and global collaborators to understand the challenges of climate change and find solutions that can be executed with impact at scale. The school includes multiple academic departments, including

the Woods Institute for the Environment and the Precourt Institute for Energy; a sustainability accelerator to drive policy and technology solutions at scale; and a newly established Oceans Department located at the Hopkins Marine Station in Monterey.

Academic collaboration and research partnerships between NPS and Stanford are not new. Both schools have partnered on research efforts, leveraging each other's strengths as well as their proximity in Northern California – the schools are 90 minutes apart by car.

Under the partnership agreement, NPS and the Doerr School of Sustainability will conduct joint research with the CSN and other NPS departments and groups, including the Energy Academic Group, Center for Infrastructure Defense, Meteorology, Oceanography, National Security Affairs, Defense Management and Engineering to investigate climate security, energy security, sustainability and more.