

# SBIR/STTR TRANSITIONS

## Newsletter

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### Visit



### From the Director

#### NAVY SBIR/STTR: POWERING COMMERCIALIZATION



Bob Smith, Director DON SBIR/STTR

As summer comes to an end, I can't help but reflect and feel proud of how we overcame the various hurdles of 2021, only to come out stronger. Over a year into the pandemic and still relying on virtual platforms and communication, and other work arounds to get the job accomplished, it's easy to imagine a less-than-desired outcome.

Yet here I am, happy to share the news that the Navy SBIR/STTR program is thriving. We continue to fund the development of key technologies for the warfighter, while finding new ways to support the innovative small businesses that make it all possible. Heading into the fall, we're on track to achieve fantastic Phase III outcomes.

#### Hitting \$1 Billion in Phase III Revenue

For years, we've consistently hit \$300-400 million in Phase III revenue resulting from the commercialization of our SBIR-funded technologies. In 2020, we crushed that mark at \$900 million. So far in 2021, we've realized over \$500 million in commercialization revenue, with the final push still ahead aiming for that \$1 billion milestone. These figures tell a story that goes beyond the surface of transition. They exemplify a dedicated team behind the scenes—TPOCs that help the small business traverse the inherent challenges of government contracting, a Commercialization Working Group (CWG) that aims to share insight and best practices among the Navy SYSCOMs, and our team's willingness to provide new and helpful resources to SBIR innovators.

## From the Director... Continued

The Department of the Navy SBIR Experimentation Cell (DoN-SEC) is a team that connects our SBIR small businesses with the Naval experimentation community to deliver solutions to the fleet in a quicker and more efficient way. The team offers facilitation, mentoring and training in all aspects of experimentation. From aiding in testing events such as BALTOPS 50 (read the article, “Hydranalix Technology Tested in the Baltic Sea,”) to providing resources like the “Guidebook to SBIR Experimentation” and “Ship Rider Orientation Guide,” the DoN-SEC is dedicated to showing how one can leverage SBIR to realize experimentation objectives.

### Still Making Connections, Still Meeting Navy Needs

We continued our Navy Forum for SBIR/STTR Transition (Navy FST) events this year with those for NAVAIR and NAVWAR. These Navy FST focused technology events remotely connected small businesses with key decision makers within industry and government. Be sure to read the article, “Navy FST Days: A Small Business Perspective,” for a glimpse inside the events from the participants’ point of view. Although we’re all looking forward to the return of forging classic, in-person connections,

we still found ways for our small businesses to showcase how they met the needs of the Navy. We made the best of our situation, our team stepped up to the plate, and as many organizations around the country try to return to normalcy, we’ve got a great head start.

### Looking Forward

What’s our plan for the rest of the year and looking to 2022? We will continue our steady pace and keep marching forward. We will strive to do more; not by sprinting, but by continuing with the same tenacity and efficiency we have modeled throughout the year. There’s a reason the Navy SBIR/STTR program has the best commercialization record within

the DoD, and we’re going to keep building on that legacy. We don’t want to stop at \$1 billion, because every new dollar in revenue represents another way we are supporting the warfighter; another way we are bolstering the strongest, most capable fleet in the world while supporting U.S. small businesses. I’m excited for what’s in store—because we’re just getting started!

Sincerely,



Robert L. Smith  
Director DON SBIR/STTR



Director DON SBIR/STTR Bob Smith at Sea-Air-Space Global Maritime Exposition



## Hydronalix Technology Tested in the Baltic Sea

By Jennifer Reisch, Navy STP Managing Editor

**B**ALTOPS 2021, held in June, marked the 50th anniversary of this multi-national exercise conducted annually in the Baltic Sea. BALTOPS is a joint maritime-focused exercise that brings together NATO Allies and partners in order to increase interoperability and enhance flexibility among the participants. Navy SBIR technologies were tested during the exercises, including five brought by small business and Navy STP participant Hydronalix.

The rapid statement of need developed by the U.S. Marine Corps (USMC) 1st Explosive Ordnance Disposal (EOD) team established the foundation for the initiatives brought to the BALTOPS event. Training focus areas included air defense, anti-submarine warfare, maritime interdiction, and mine countermeasures operations. “It’s unusual to see a single small business that has such a diverse portfolio that they are working on simultaneously,” said Tony Brescia, a program manager at Naval Air Warfare Center Aircraft Division, Patuxent River, Md., and the technical point of contact (TPOC) for Hydronalix’s technology.

These initiatives developed capability to fulfill written requirements by USMC EOD Littoral Explosive Ordnance Neutralization (LEON) units. “This year we’ve been working with the LEON Marines,” said Tony Mulligan, CEO of Hydronalix. “It started with a driving requirement they had for a small USV that was similar to what we were already developing so we started tweaking our path to more closely match what they wanted. They were very encouraged by our first set of demos and they came to visit us in our facilities. We showed them other SBIR technologies that we had and it turned out they had requirements for those as well. In the process the Navy SEC team and our TPOC, Tony Brescia, were extremely helpful for us.”

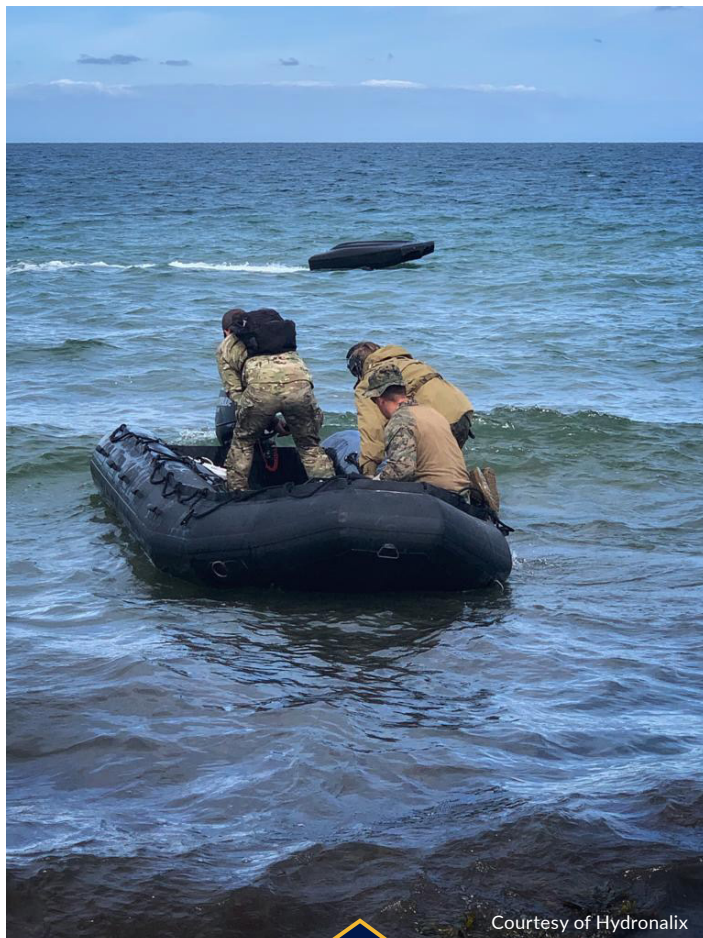
“The Marine Corps has been making a pivot



toward the Pacific, specifically peer competition and we have aligned ourselves with the SBIR process to develop low TRL technologies toward the end state of what we want so our systems command could eventually purchase it and we could develop it further with RDT&E money,” said MSgt Matt Jackson, capability concept development team staff noncommissioned officer in charge, who led the LEON exercises in BALTOPS.

“The first exercise we really worked on with the LEON group started in December 2020 so roughly six months of development and integration and incorporation was done to make BALTOPS exercise goals. It was very fast and agile to add and incorporate new technologies into their

## Hydronalix Technology Tested...Continued



Courtesy of Hydronalix

NIX, an autopilot-controlled USV, can haul gear and run resupply missions.

existing platform in that time frame,” said Brescia.

During the first few months of 2021, the Marines continued to test the equipment, asking for improvements and changes. As things progressed, Hydronalix integrated the Marine Corps handheld radio systems into its boats and drone operations. “The Marines could then use the MPU5 radio with their software that they’re already trained on to do the mission planning for our technologies,” Mulligan explained.

As testing happened for Hydronalix’s technologies, the Department of Navy Small Business Innovation Research (SBIR) Experimentation Cell (DoN-SEC) team mentored Hydronalix and facilitated the process, including drawing up a data collection and compilation

plan with NAWCAD, to help ensure a successful exercise. DoN-SEC connects SBIR innovators with the DoN experimentation community to facilitate delivering innovative solutions for the warfighter.

“The way that Hydronalix and their TPOC Tony Brescia work with us is the right way to do things in our opinion. The support we’ve gotten from the SBIR office at ONR has been absolutely critical for our capability and concept development and what the future vision is for the Marine Corps EOD community in the littoral regions. We’ve gone to Hydronalix multiple times, we’ve talked directly with engineers, and they’ve seen our mission profiles. Sitting there at Hydronalix in Tucson, Arizona, we’ve talked about and developed everything from handles to latches. We’ve discussed where stuff could be located to see potential problems. An engineer who’s never been on a fully loaded rubber raft on the water in the dark with guns might not think of a design feature being unusable when it’s buried under a bunch of gear or thrown out of a helicopter,” said Jackson.

“We have a requirement for an unmanned surface vessel with the capability to have acoustic satellite RF communications; it’s essentially a communications node and that communications node needs to talk to our UUVs, our ROVs, our divers, and basically it’s the transition from acoustic communications in the water up through satellite to the common operating picture. We’ve been developing this through the NAVAIR SBIR. It’s been very promising. They’ve been developing their SBIR technology at a rapid pace to fit our requirement.”

Brescia said that he and Hydronalix team members listened to what the Marines were saying and then connected the dots, bringing companies and technology together to do it. “The Marines have taken a detailed look at various technologies and then reached out to me and other folks to articulate their needs and look at



## Hydronalix Technology Tested...Continued

how we can adapt what's already being done to meet those needs. In this case the Marines had a need a little different from what the Navy was doing for EOD units so we took the basic platform and put different types of sensors on it," he said.

"So we're already starting with something that's been tested out and is adaptable and modular enough that you can add and change things around without too much trouble, maximizing the utility of the device versus making a single standalone system that can only do one thing. And one of the things that we've done from an SBIR/STTR perspective is to look at how technologies can be used by other services and commercial industry and use that to our advantage."

Immediately after the technology qualified for BALTOPS, Hydronalix staff helped the Marines clean and check the equipment and then pack it into shipping boxes for military transport to Rota, Spain, followed by a convoy from Rota up to Putlos, Germany, on the Baltic Sea.

The Hydronalix platforms tested at BALTOPS "are true SBIR core technologies. A lot of times SBIR is a part of a system, but these entire capabilities were developed on the SBIR programs. In our case everything was the exact intent of the SBIRs," Mulligan said.

Of particular interest and focus to the USMC was the AMY unmanned surface vehicle (USV). AMY can carry a variety of payloads and utilized a commercial-off-the-shelf (COTS) sonar unit produced by Hummingbird during the event. Other Hydronalix initiatives used in BALTOPS were SONAR EMILY, demonstrating bathymetry mapping; NIX, another autopilot controlled USV that was used for hauling gear; ADAPT, a disposable low-cost drone used to deliver small payloads to remote locations; and the SBIR-supported high precision autopilot system used on the AMY and NIX boats, developed by the



Courtesy of Hydronalix

The ADAPT disposable drone can deliver a payload to an exact location up to a mile and a half away.

small business AREA-I.

"Some of the experiments and demonstrations they were doing for fleet consisted of resupply capabilities so they used the NIX and the AMY platforms to test the concept of being able to run supplies from the ocean to the beach. And they used the ADAPT disposable drone to demonstrate that without training or a pilot Marines could fly the drone from a small manned boat offshore to a very exact spot on the beach," Mulligan said.

"The ADAPT drone can deliver a five-pound payload about a mile and a half away. The drone can fly from a rubber raft to an exact spot on the beach by operating off the Marines' mission planning app. The drone has no radio, no ground station, no pilot. The traditional ground station

## Hydronalix Technology Tested...Continued

hardware is now simply any device capable of running the control software apps, such as a laptop, phone or tablet. There's no extra gear, so that's why we call it convenient—it's a convenient disposable drone. It only takes a couple of minutes to learn how to run the app and there are no pilot training skills or anything like that. It just goes and does it."

"Running BALTOPS, we took a family of unmanned systems and connected them to a single C2 platform. It was run through Stennis Space Center and their IS2 to ops software. It takes any information from a system and converts it into a common language. It feeds essentially anything we want from whatever sensor we want it to be fed from. It's really deciphered a lot of the problems because individual technologies, for example, are proprietary; they have their own software. This is a bridge that can get by that. We want everything open architecture of course. We want everything to be agnostic to everything. We're not there yet but that is now within the requirements, especially with unmanned systems," Jackson explained.

"And BALTOPS was extremely successful," Jackson added. "It was the first time it was really done at scale with some program of record systems, some developing SBIRs, and some ONR technology in its portfolio and we made it all talk and it painted a picture. It's much aligned with Mosaic Warfare, taking a bunch of different sensors that

are relatively low-cost versus having an exquisite machine that does everything in one package and is not attritable. We want to be able to take different sensors or platforms that are attritable and paint an overall picture. If you lose one you don't go into the blind.

"Our end vision for the USV is to have onboard satellite communication so I can take information, whether it be from another team out on the water or divers from under the water or our unmanned

system, and pump it up and out SATCOM in order to have real time data imagery video anywhere in the world. Hydronalix took a step toward that in the RF world. Data was pushed all the way to Stennis Space Center and then their server was sending it to the overall common operating picture of the

joint partners so the Norwegians, the Germans, everybody had the ability to see everybody. Ultimately what it did was decrease the detect to engage sequence by magnitudes.

"Once we get satellite communication we believe that we demonstrated that we can get a UUV to transmit sonar images from underwater to a gateway buoy out through a radio and then to IS2 to ops and then federated to everybody. The AMY boat could essentially become a mobile gateway buoy and be able to loiter in an area with underwater sensors and pass that information up and out without a man being there," Jackson explained.



The AMY USV can carry a variety of payloads and utilized a commercial-off-the-shelf sonar unit produced by Hummingbird during BALTOPS.

## Hydranalix Technology Tested...Continued

When Hydranalix staff arrived in Putlos for the exercises, they taught more of the Marines how to operate the equipment. "Since it was new equipment at the end of the day we would help the Marines inspect and service the equipment. We would make sure that if anything was going wrong we fixed it so the next day it was operational for them. Everything went well. We were prepared for some long nights but pretty much the day wrapped up in an hour or so and folks went back to the hotel," Mulligan said.

"Things went so well we were able to send two staff members to do Phase III commercial sales in multiple locations in Europe because they were already there and cleared on COVID-19. Two of our staff were able to do an event in London for the commercial versions of what we are doing for the Marines. We were able to train and do a SONAR EMILY demonstration for leadership in London, including the fire brigade in the Thames River right in front of Parliament and Big Ben. They also went to Denmark on another Phase III commercial project to train our distributor and then we sent them on to Amsterdam for more commercial sales! After BALTOPS we sent another two engineers to a big program for the Greek Red Cross. They use the systems for rescuing refugees or drowning people off the coast.

"The Marines did a really good job. It was a lot of hard work to make it look easy. They learned fast and they knew their stuff."

Hydranalix's success in BALTOPS demonstrates that the "SBIR/STTR program in general is a really

good development tool set that is used by the acquisition community to bring external ideas into the organization to solve problems. I think it should be used to an even greater extent than it currently is to address problems, not just in the Navy but that any of the services have," Brescia said.

In addition to helping the USMC meet its mission, Hydranalix's SBIR-developed platforms are helping first responders across the nation. "The regular EMILY boat for rescue, SONAR EMILY which has the side scan sonar on it, and a Swiftwater platform were made available to first responders through the OSD's Domestic Preparedness Support Initiative, which transitions DoD technology to first responders. Assets are given to a first responder unit and become a user feedback loop. First responders, including U.S. Border Patrol, LA County lifeguards, and Search and Rescue Units in Austin and Houston, Texas, Fairfax and Norfolk, Va., New York, Denver, Kauai, Hawaii, and at the University of Mississippi will provide information back from a technical point of view. So that's all incorporated into providing a better capability for the commercial side of their business as well as feeding into the military side of the house by having another pool of evaluators and users to make the systems better," Brescia said.

*"And BALTOPS was extremely successful, It was the first time it was really done at scale with some program of record systems, some developing SBIRs, and some ONR technology in its portfolio and we made it all talk and it painted a picture."*

MSgt Matt Jackson, USMC

Hydranalix is a small high technology company specializing in extreme performance small unmanned vehicles. Founded in 2009, the company has shipped nearly 800 systems worldwide. For more information, visit the company website at <https://www.hydranalix.com/>.



## Daniel H. Wagner Associates: Over 40 Years of SBIR Success

By Julie Scuderi

Each year, billions of dollars are invested into the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, with the overarching goal of providing sought-after solutions to the U.S. government. The driving forces behind these innovations—the small businesses that take an out-of-the-box idea and turn it into something viable—have an arduous journey from the Phase I concept to transitioning to a program of record (PoR). Many never see the finish line.

While there is no perfect path to follow for success, certain companies, time and time again, take a novel idea and leverage government funding to deliver a final product that supports and improves the world's finest fleet.

Daniel H. Wagner Associates (DHWA) is one of those efficacious successes, having transitioned its

SBIR-funded technologies to eight Navy PoRs and multiple heterogeneous autonomous vehicles. The Exton, Pa.-based small business, which also has offices in Hampton and Vienna, Va., focuses on data fusion and mission planning solutions that all contain the common theme of mathematical algorithms. To date, the company has amassed \$64M in Phase III revenue that has resulted from its Navy-funded SBIR and STTR technologies.

"There should always be a defined transition, so you never have to wonder where it's going to end up," says Reynolds Monach, president and CEO of DHWA. "SBIR is one of the only ways by which a breakthrough technology is going to make a difference in how things are done. But you need to

have that success mapped out in your head from the beginning."

DHWA credits the Naval Air Systems Command (NAVAIR) SBIR program with providing the sort of tools a small business needs to succeed—mainly the superior job of the technical points of contact, who work closely with the company and provide real-world data. One of the biggest successes for DHWA started when NAVAIR was developing a new anti-submarine warfare (ASW) helicopter, the MH-

60R, and needed a tactical decision aid.

DHWA used the SBIR program to design and develop a prototype acoustic mission planner (AMP), which used all relevant data from the helicopter to estimate where a target submarine was likely to be located, then generated an optimal search plan. This mission planning technology was so successful



Through SBIR, DHWA developed its Acoustic Mission Planner (AMP), which generates an optimal search plan for locating target submarines. Today, AMP can be found on all the Navy's MH-60R Romeo Anti-Submarine Warfare helicopters.

that Lockheed Martin provided the additional funding needed to integrate AMP into the MH-60R's avionics and shipboard Joint Mission Planning System (JMPS). Today, Wagner's AMP can be found on every MH-60R "Romeo" ASW helicopter.

Drawing on that same principle of using custom mathematical algorithms and environmental data to calculate likely target location and generate optimal search plans, DHWA used NAVSEA PEO IWS SBIR funding to develop a Mission Optimization Configuration Item (MOCI) web service and Operational Route Planner (ORP), which transitioned into the Navy's Undersea Warfare Decision Support System (USW-DSS) PoR.



*Daniel H. Wagner Associates...Continued*

In the realm of the company's other core capability, data fusion to create an accurate Common Operating Picture (COP), DHWA's single platform and distributed multiple hypothesis data fusion engines have been integrated into more than 10 different types of unmanned surface vehicles (USVs), many of which were used in a series of Office of Naval Research (ONR) USV swarm demonstrations and experiments from 2014 to 2020. These engines have also transitioned to the MK18 Mod 2 Inc 2 Unmanned Underwater Vehicle (UUV), the SQQ-89A(V)15 Torpedo Defense Functional Segment, and USW-DSS.

While these tools and technologies developed through SBIR differ in their applications, the Naval benefit remains constant: the ability to know and immediately assess one's surroundings. This increase in situational awareness and wherewithal contributes to a stronger, more knowledgeable and equipped warfighter.

Although Monach will be the first to tell you that DHWA's top priority is to design and deliver key innovations to the U.S. Navy, that doesn't mean others haven't wanted to get in on this target location prediction and mission effectiveness optimization technology. Employing a highly skilled team where most employees have an advanced degree in mathematics or computer science, DHWA has used its technical savvy in other sectors as well. Before working with the SBIR program, the team developed a specialized search theory, that in 1989, led a famed team of treasure hunters to nearly \$150

million in sunken gold at the bottom of the Atlantic Ocean. These search algorithms were further developed with SBIR funding and transitioned to the Navy's Mine Warfare and Environmental Decision Aids Library (MEDAL). The company also attracted the attention of NASA and the Air Force through several SBIRs and other contracts that capitalize on DHWA's ability to utilize environmental data to optimize unmanned aerial vehicle (UAV) routes and minimize risk.

However, with multiple Navy Phase I, II and III projects, DHWA continues to focus on the task at hand. And while others might move the goalpost after more than 40 years working within SBIR, DHWA isn't one to mess with a proven formula for success.

"SBIR gives you the freedom to pitch ideas that have really interesting applications and turn them into useful technologies,"

adds Monach. "When we were looking at variations in acoustic search performance in the ocean and figuring out how we could apply this data to detailed planning for Navy missions, nobody had ever done that before. But SBIR allowed us to do the R&D work that would eventually transition."

Their corporate goal has also stood the test of time: to combine the power of mathematical theory with operational experience to address complex problems encountered in operational analysis. If past performance is any indication, DHWA's future is very bright.

For more information, visit DHWA's website at <http://www.wagner.com/>.



U.S. Navy Photo

Through SBIR, DHWA developed its single platform multiple hypothesis data fusion and Bayesian classification engines, which are used on the MK18 Mod 2 Inc 2 Unmanned Underwater Vehicle (UUV).

# From Spin-offs to Phase IIIs: Creare is the Quintessential Navy SBIR Success Story

By Julie Scuderi

Not many companies can trace their SBIR heritage all the way back to the beginning—and for the history buffs here, we’re talking about 1982, when the Small Business Innovation Research (SBIR) program as we know it today was first signed into law from legislation enacted by New Hampshire Senator Warren Rudman. Creare, also based in New Hampshire, was one of the original SBIR innovators; and as the program gained steam and attention, the company’s profile rose right beside it.

Today, Creare has realized nearly \$170 million in Phase III revenue resulting from its Navy SBIR-funded technologies and continues to support significant programs within the Department of Defense (DoD). The company has carved out multiple paths to transition, including licensing its technologies, delivering specialized products to government and industry, and creating highly successful spin-off companies. One of its spin-offs, Edare LLC, was launched in 2010 and focuses exclusively on supplying low to medium volume highly engineered products that have transitioned from SBIR projects to government and commercial customers. Regardless of the customer base, Edare created a low resistance pathway to getting products to customers quickly.

“When it comes to SBIR, you not only need to have a good technology, but you need to understand the business side of it as well,” says Jay Rozzi, principal engineer at Creare. “Even though we know in most cases the technology will work prior to Phase I, it’s what we do in that stage that makes a big difference. We are reaching out to stakeholders. We’re finding out what’s important to them. Whether it’s a prime, the Navy, or another customer, there are transition discussions very early in the project. Business is all about relationships and reaching out. If stakeholders are gathered and aligned early in the process, then you have a transition path already laid out for you in Phase II.”

While being business savvy has certainly given



Vice Adm. DeWolfe Miller, III, former commander, Naval Air Forces, left, discusses the fleet's first Compact Swaging Machine aboard USS Nimitz (CVN 68) in 2019.

Creare a leg up in the industry, SBIR is still about meeting the needs of the Navy, and that’s exactly what the team has accomplished throughout the years. One of Creare’s most successful innovations is its Compact Swaging Machine (CSM), which went from an SBIR Phase I all the way to multiple Phase III awards.

The CSM was designed to meet a pressing need on Navy aircraft carriers to replace a hazardous and time-consuming process. When an aircraft lands on the deck, arresting gear stops the aircraft rapidly and in less than 400 feet. Routine flight operations amass repeated “hits” on the arresting gear cables requiring frequent maintenance to keep the gear operational.

Creare used the Naval Air Systems Command (NAVAIR) SBIR program to develop the capability to automate the replacement of couplings on the purchase cables that transfer the landing force of the aircraft to the arresting gear engines. Creare engineered the CSM to be much smaller and lighter than existing swaging machines, enabling its below-deck use aboard aircraft carriers. It reduces workload and dramatically increases the quality of life for Sailors. The machine allows one Sailor to accomplish in just over an hour what used to require multiple Sailors more than eight hours to complete and it’s estimated that the CSM reduces V-2 Division’s workload requirements by up to 500 man-hours per deployment. The first six systems were built and delivered to the U.S.



## Create...Continued

carrier fleet in 2018, and since then, 22 more systems have been fabricated and delivered to the U.S. Navy with the final two delivered in 2021. Phase III funding for CSM was provided by The Aircraft Launch and Recovery Equipment Program Office (PMA-251).

Creare also leveraged the SBIR program to solve several key needs for Lockheed Martin's F-35 Joint Strike Fighter program. With Navy SBIR funding, Creare successfully developed a breakthrough cryogenic high-speed titanium machining process that significantly reduces the manufacturing cost of critical titanium parts on aircraft, including the F-35. A few years later, Creare again aligned with Lockheed

Martin when the prime needed a quicker, more efficient solution to inspect the tens of thousands of fasteners present on the F-35. Using multiple SBIRs from both the Navy and Air Force, with support from the Air Force Manufacturing Technology (ManTech) program, Creare developed its handheld Fastener Measurement Tool (FMT™) and transitioned it through Edare. The highly accurate tool works by projecting multiple laser lines onto the surface of the aircraft and imaging the resulting pattern with a camera. This technique, called structured lighting, rapidly provides 3-D measurements and go/no-go determinations of filled and unfilled fastener profiles, saving thousands of hours in labor and decreasing manufacturing cycle time.

"SBIR has always been known as an R&D program, but there's been a big push in the past

10 to 20 years to integrate SBIR at the program level through technology roadmaps, and to turn these mission-critical SBIR projects into transitioned technologies or actual products that benefit the warfighter," adds Rozzi. "There are so many opportunities now to integrate SBIR technologies into systems that ultimately make our fleet stronger and our warfighters better. One of our biggest competitive advantages as a nation

is our ability to develop innovative products. The technologies developed through the competitive merit-based SBIR program are technologies people want for their systems and our warfighters."

The ability to take an idea born in SBIR and turn it into a tangible product found



Creare has worked alongside Lockheed Martin on the F-35 program in various capacities throughout the years, bringing proven SBIR-funded technologies to the table that result in improved performance, reduced labor costs and a decrease in manufacturing cycle time.

on major military programs of record can be attributed in large part to the talent Creare prides itself on finding and retaining. Increasing its employee base, creating new jobs through its spin-offs, and attracting the very best scientists, Creare is well positioned to continue its more than half-century of success in bringing products to market and providing sought-after solutions to government and industry. As new small businesses enter the SBIR arena every year and aren't sure where to turn for inspiration, Creare's business philosophy and forward-thinking mentality is certainly one to strive to emulate. As Rozzi adds, "The model works!"

For more information visit Creare's website at <https://www.creare.com/>.

# Navy, Marine Corps Rapid Innovation Fund Pauses, Reflects on Success

By Brad Pantuck

The Office of Naval Research recently completed a Department of Navy (DoN) Rapid Innovation Fund (RIF) Project Book with information about projects awarded between 2012 and 2020, including project scope and status. Its goal is to promote further military and commercial adoption of the products developed. Primes, original equipment manufacturers, and other military services may find it useful as they look for cutting-edge proven technology to plug gaps.

The RIF program was created by Congress in fiscal year (FY) 2011 to productize and transition innovative technologies into defense acquisition programs. Most of the technology comes from small businesses; about two thirds of the technologies have lineage in the Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) program.

The Navy/Marine Corps portion of the RIF program was funded at an average of about \$60M per year from FY11-19 but was not funded by Congress in FY20 or FY21. The DoN RIF program is continuing to execute and transition the approximately 70 contracts that were awarded with FY17-FY19 funding.

“We’re using the gap in funding for new starts to squeeze more juice out of projects already funded,” said Scott Bartlett, the DoN RIF program manager. “I’ve got my team looking at already-deployed products and asking where else they have been used and who else should know about them. The taxpayers have already paid for

this innovation.”

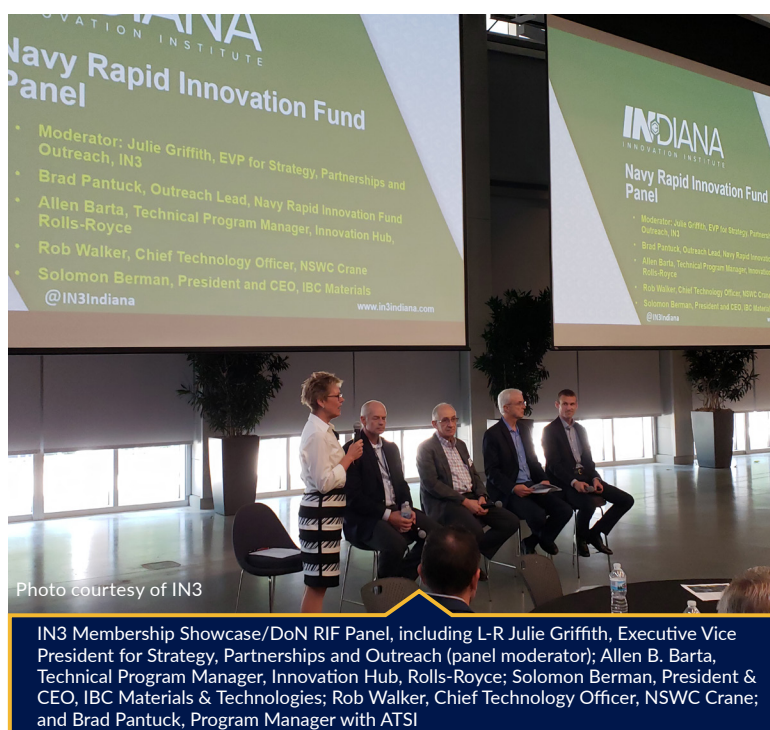
“It’s nice to have details about products of the Navy’s RIF in one place,” said Chip Cotton, account executive, energy and national security R&D with GE Research. “It gives industry a lot of confidence in them, given that they’ve already been through the military’s ringer.”

While all the products of the DoN’s RIF program have been tailored to meet specific Naval needs and uses, many of them have broad military and dual use applicability. Some are platform technologies that have wide industrial applicability, and others improve the ability to maintain and repair equipment.

One example is a wear and corrosion resistant coating that increases component life significantly. IBC Materials & Technologies of Lebanon, Ind., spent years and millions of private and SBIR dollars developing the innovative Plasma

Electrolytic Oxidation (PEO) nano-ceramic coating. PEO is a single-step electrochemical process, similar to anodizing, that gives a ten-fold improvement in corrosion and wear resistance and 27 percent improvement in fatigue life over current coatings. Through a \$1.8 million RIF project, which ended in 2018, the technology was adapted and demonstrated on the Navy LAU-116 Missile Launcher Forward Block.

“Because of this project our reputation as a provider of surface treatment solutions is getting wider distribution and visibility,” said Solomon Berman, IBC’s CEO.





## Navy, Marine Corps Rapid Innovation...Continued

"We're now under a production contract with the Defense Logistics Agency and Raytheon to coat 20-30 aluminum missile launcher parts per month for the next five years or until all forward blocks are replaced. We see a bright future in the aerospace, marine and automotive industries, given that our coating technique is proven and that with very little adaptation can be used to treat aluminum, magnesium and titanium components, increasing their life significantly."

The Navy RIF project book provides additional detail about this technology and others and includes government technical points of contact so that industry can reach out and get more details.

Over the years the DoN RIF program has partnered with regional grassroots organizations such as the Indiana Innovation Institute (IN3) to help make companies aware of the RIF. "IN3 is pleased that the Office of Naval Research is making industry aware of these successes," said Julie Griffith, IN3's executive vice president for strategy, partnerships and outreach. "A lot of the technologies our companies are developing have broad applicability for strengthening the industrial base and we need to get the word out."

Another product developed under the RIF program to support maintenance is a wireless vibration recorder developed by the Midé Technology Corporation of Medford, Mass., in partnership with the Naval Air Systems Command (NAVAIR). Branded as enDAQ, the product is a versatile, chewing gum pack-sized data acquisition tool that senses and monitors various engineering quantities for analysis and post processing.

"We attribute a lot of the success we've had as a company to the RIF program," said Stephen

Hanly, VP of product at Midé Technology. "What was especially unique and beneficial about the program was the emphasis placed on transitioning a technology to a fielded product. Our experience prior to this program had been a lot of R&D contracts that ended in prototypes. Transitioning all the way to a product helped us grow as a company but it also provided the Navy with a solution they were able to use and field right away."

NAVAIR immediately put the product to use across several platforms. "Since 2014 when the original RIF ended, we have generated over \$2M in sales to the U.S. Navy and over \$10M in commercial product sales," continued Hanly. "The product is extremely versatile. We have customers in virtually every industry, but lots in defense, mining, and aerospace." Midé has since been acquired by Hutchinson Corporation.

Another project used for monitoring the health of U.S. Navy ship systems, which was first developed under a DoN SBIR program and later qualified under the RIF program, is a condition-based maintenance solution referred to as the ADEPT Distance Support Sensor Suite (ADSSS). ADSSS was developed by Mikros Systems Corporation for the U.S. Navy's Littoral Combat Ship (LCS). ADSSS provides automated, continuous, non-intrusive monitoring and evaluation of LCS core mission systems. Mikros Systems was acquired by Noblis, Inc. in April 2021.

ADSSS detects maintenance issues, beams status to ashore SMEs, and helps reduce LCS operating and maintenance costs by enabling better targeted support during scheduled maintenance periods.

*"We're sharing the project book broadly, with the other military services and with commercial industry. Many of these technologies have made a real difference for the Navy. We want to see them make a difference for others too."*

Scott Bartlett, DoN RIF program manager

## Navy, Marine Corps Rapid Innovation...Continued

LCS Technical Director for Fleet Introduction Michael Holmes said, “ADSSS has been a game changer for fleet support. Because of it we are in a much better position to support LCS’s extended deployments and unique maintenance requirements.”

Mikros and its parent company, Noblis, see applications of the ADSSS mission beyond the LCS, and even potentially beyond the U.S. Navy. “Increasingly, our military and industries such as the oil and gas industry are deploying ships with fewer and fewer people aboard,” said Chuck Bristow, Mikros president. “ADSSS, with little

adaptation, can save costs by reducing manning requirements and ensuring the right personnel and parts are on hand during scheduled maintenance periods.”

The DoN RIF Project book will be available at [www.navysbir.com](http://www.navysbir.com).

“We’re sharing the project book broadly, with the other military services and with commercial industry,” explained Bartlett. “Many of these technologies have made a real difference for the Navy. We want to see them make a difference for others too.”

## 2021 Upcoming Events

DATE	EVENT & LINK	LOCATION
Oct. 18-21	2021 Future Force Capabilities Conference and Exhibition <a href="https://www.ndia.org/events/2021/10/18/2021-future-force-capabilities-conference-and-exhibition">https://www.ndia.org/events/2021/10/18/2021-future-force-capabilities-conference-and-exhibition</a>	Columbus, Ga.
Oct. 18-21	Defense TechConnect Innovation Summit & Expo <a href="https://events.techconnect.org/DTCFall/">https://events.techconnect.org/DTCFall/</a>	Washington, D.C.
Oct. 19-20	GridSecCon <a href="https://www.nerc.com/pa/CI/ESISAC/Pages/GridSecCon.aspx">https://www.nerc.com/pa/CI/ESISAC/Pages/GridSecCon.aspx</a>	Virtual
Oct. 19-20	SBIR/STTR Fall Innovation Conference <a href="https://www.techconnectworld.com/SBIR2021/">https://www.techconnectworld.com/SBIR2021/</a>	Washington, D.C.
Oct. 27-28	TechNet Cyber <a href="https://events.afcea.org/afceacyber21">https://events.afcea.org/afceacyber21</a>	Baltimore, Md.
Oct. 26-28	Industrial Control Systems (ICS) Cyber Security Conference <a href="https://www.icscybersecurityconference.com/">https://www.icscybersecurityconference.com/</a>	Atlanta and Virtual
Oct. 31-Nov. 4	2021 IEEE Sensors <a href="https://2021.ieee-sensorsconference.org/">https://2021.ieee-sensorsconference.org/</a>	Virtual
Nov. 2-5	Stationary Battery Conference <a href="http://www.battcon.com/">http://www.battcon.com/</a>	Hollywood, Fla.
Nov. 17-18	International Security Conference & Exposition (ISC East) <a href="https://www.isceast.com/en-us/show-info.html">https://www.isceast.com/en-us/show-info.html</a>	New York
Nov. 17-18	Naval Submarine League (NSL) Annual Symposium & Industry Update <a href="https://www.navalsubleague.org/events/annual-symposium/">https://www.navalsubleague.org/events/annual-symposium/</a>	Alexandria, Va.
Nov. 29-Dec.2	Military Communications Conference 2021 <a href="https://www.comsoc.org/conferences-events/military-communications-conference-2021">https://www.comsoc.org/conferences-events/military-communications-conference-2021</a>	San Diego
Nov. 29-Dec. 2	Aircraft Structural Integrity Program (ASIP) Conference <a href="http://www.asipcon.com/">http://www.asipcon.com/</a>	Austin, Texas, and Virtual
Nov. 29-Dec. 3	I/ITSEC 2021 <a href="https://www.iitsec.org/">https://www.iitsec.org/</a>	Orlando, Fla.



## Lasting Connections: NAVAIR is Intent on Leveraging Small Business Ingenuity for Fleet Readiness

By Julie Scuderi

Rear Adm. Scott Dillon kicked off the 2021 NAVAIR FST Days with a motivational keynote message of resolve, unity and empowerment. He also called on all the high-tech small businesses participating at the two-day event with an invitation to collaborate, innovate and ultimately better equip the warfighter for success.



As NAVAIR adapts to its new structure of a mission-aligned organization, there are two main goals that need to be addressed: the need for material readiness, and the speed at which NAVAIR delivers new capabilities to the fleet. SBIR/STTR-derived technologies can fill these gaps by leveraging new capabilities and technologies while providing fewer layers of bureaucracy between the developer and the end user.

Small businesses are flexible, agile, and able to meet the growing needs of our warfighters. NAVAIR, for its part, is ready to make those investments in small businesses to obtain the advanced capabilities needed to maintain a decisive advantage over our adversaries. As the rear admiral noted, "The decisions and investments we make this decade will set the maritime balance of power for the rest of this century. We can accept nothing less than success."

What can small businesses bring to the table? According to Dillon, the possibilities are vast. Before he outlined some major successes bred from the SBIR program, he homed in on objectives to which NAVAIR is heavily focused. These include:

1. Improving reliability of systems and their components
2. Increasing maintenance capabilities
3. Ensuring on-time delivery of products
4. Improving forecasting and delivery of equipment and parts
5. Partnering with other services and industries to increase quality across the board

This last objective is where the small businesses come in. As he spoke about "not operating in a bubble," Dillon highlighted the ingenuity and talent that is so-often found among small high-technology firms. He came to the podium with several large successes and illustrated the way NAVAIR is currently using those technologies to save money, manpower, and most importantly, lives.

The first success he highlighted was the CORE™ platform, developed by Fuse Integration, Inc. of San Diego. CORE is a flexible, minimized space, weight and power network architecture solution. It is a family of systems that works across multiple security domains, virtualized as a single unit. CORE connects airplanes, ground vehicles, and ships with ground operations across secure and unclassified networks in rugged conditions.

*Lasting Connections: NAVAIR...Continued*

In missions where lives are on the line, this capability is key to seamless communications. It was most recently implemented on the Mobile Unmanned/Manned Distributed Lethality Airborne Network Joint Capabilities Technology Demonstration program. An SBIR Phase I, II and II.5 funded this critical innovation.

Another highlighted success was the L-Band Solid-State High Power Amplifier for Airborne Platforms, developed by North Star Scientific Corporation of Hawaii. This technology modernized the E2D's Link-16 high-power amplifier, enhancing the aircraft's Joint Tactical Information Distribution system's ability to exchange real-time information with other military platforms.

This SBIR effort resulted in several purchase orders, including 55 units procured by the E-2/C-2 Airborne Command & Control Systems Program Office (PMA-231), with an additional order of 42 units in January 2020.

NAVAIR understands the importance of having in-house manufacturing capabilities so that new technology can be utilized on-demand. As such, Dillon highlighted several key readiness improvement technologies that resulted from SBIR efforts. For instance, the NAlign Damage Mapping System, developed by Etegent Technologies of Cincinnati, is an automated tool that provides digital mapping of damage photos on 3D models of rapid repairs of composite and non-composite structures.

This technology improves turnaround time, reduces costs, and increases the quality of repairs to composite structures and their

coatings. Fleet Readiness Center (FRC) Southwest is currently using NAlign on the F-18 platform, and it is transitioning to FRC Southeast. NAlign is also being used on the A-10, the V-22 Osprey and the P-8 Poseidon.

Dillon wrapped things up with a notable success from ES3—Engineering & Software System Solutions, Inc. of Warner Robins, Ga.—and their cold spray technology. Cold spray is an additive solid-state thermal spray process that restores critical dimensional features to components that have been lost due to corrosion, wear, or mechanical damage. Cold spray has expanded industrial operations at FRC Southwest, FRC East, and FRC Southeast. The process allows for the rapid repair of aircraft components for return to service rather than scrapping them and buying replacements. The cost impact is more than \$17M in scrap cost avoidance on F-18 airframe mounted accessory drives, E2C2 rudder torque tubes and H1 gearboxes.

The keynote speech was the perfect kick-off to the highly anticipated NAVAIR FST days, and illustrated the immense network of partnerships NAVAIR has nurtured and continues to invest in. From corrosion protection to network architecture, the shared goal of government and industry is clear—a ready, agile, and advanced force protecting our nation's global interests. As Dillon noted, "For 245 years, in both calm and rough waters, our nation has stood the watch to protect the homeland, preserve freedom of the seas, and defend our way of life." With brilliant minds stepping up to the plate and meeting the fleet's most pressing needs, there's endless potential for small business success.



## NAVAIR FST Days

By Jennifer Reisch, Navy STP Managing Editor



The NAVAIR Forum for SBIR/STTR Transition Focused Technology Event (NAVAIR FST Days), which was held virtually in March, focused on connections, opportunities and innovative technologies, and transitioning those technologies to make an impact for Navy warfighters, said Donna Attick, NAVAIR SBIR and STTR Program Manager.

“Since its inception NAVAIR’s goal has been to provide full lifecycle support of Naval aviation aircraft, weapons and systems operated by Sailors and Marines. This includes research, design, development, systems engineering, acquisition, test and evaluation, training facilities and equipment, repair and modification and in-service engineering and logistics support,” explained Shelby Butler, director of the NAVAIR Office of Small Business Programs.

“Our role in Naval aviation is very clear. We are dealing with near peer challenges from Russia, China and others. Therefore, we have to increase our innovation and productivity in the areas that support the aircraft and our weapons systems. A huge part of that involves acquiring the applicable data to make informed decisions regarding cost, schedule and performance. We also are focused on increasing the Navy and Marine Corps’ capabilities, readiness and affordability,” Butler said.

Todd Purcell, director, Chief Technology Office at NAVAIR, also spoke about growing challenges from our adversaries during a panel at the NAVAIR FST Days. “We’ve returned to an era of great power competition. The U.S. now faces a more competitive and dangerous security environment than we’ve seen in generations. Our adversaries are undermining the free and open conditions at sea that have benefitted so many for so long. The very nature of warfare is changing and we must adopt new approaches that are both competitive

and sustainable to deliver the Naval airpower America needs to win. The development of new technologies is relentless and the speed at which our competitors are delivering those capabilities is accelerating. Many of the technological developments are coming from the commercial sector, not nation states or big government, which allows small nations and even non-state actors access to the capability for military purposes.”

NAVAIR’s Chief Technology Offices engage internally and externally to identify high payoff technologies, shaping science and technology policy, and providing guidance, Purcell said. Two strategic imperatives drive their work: Increase material readiness for both current and future fleets, and deliver new capabilities with increased speed. “We are the primary advisor to the commander of NAVAIR and the PEOs and PMAs regarding technology trends, issues and investments. We perform technology scans where we continually seek innovative solutions and ideas that address our needs and then champion those across the enterprise. The role of S&T is not to avoid risk but to understand and accept scientifically feasible risk to respond to current critical needs.”

Small businesses play a critical role in meeting the technological needs of the Naval Aviation Enterprise. The panel discussed several ways small businesses can improve their success rates when working with NAVAIR.

According to Mark Husni, science and technology lead for the Naval Air Warfare Center Aircraft Division Lakehurst, a 2012 study at the NAVAIR Chief Technology Office identified three common themes that determined whether or not a technology transitioned to the Navy: advocacy, funding, and technical content. In his experience, Husni has seen a fourth factor play out repeatedly:

## NAVAIR FST Days...Continued

transition planning.

Advocacy comes from the Navy. Is the need strong? Is there fleet buy-in? How well can it be marketed to Navy decision makers? "Successful companies have a clear understanding of the acquisition program's technical requirements and are able to clearly communicate the specific technology's benefit and business case to the program office and customer. You should engage and remain engaged with the customer through your technical point of contact and be able to work transparently through technical integration and transition issues," said Janet McGovern, senior science and technology advisor to the NAVAIR Aviation Common Systems and Commercial Services Program Executive Office (PEO(CS)).

Funding also comes from the Navy. "In my experience SBIR funding is great to kick off a technology but typically you need more than Phase II funding to really shove something over the fence to the fleet," Husni said. According to McGovern, "There simply isn't enough funding to transition all good ideas so you must make the business case for further investment in the qualification and acquisition of your product."

"One of the intents of the [SBIR/STTR] program is for these technologies to be dual use. For the most part you're going to need to have other customers that are out there so you have a customer base, you have additional funding sources; it may take getting additional private funding, your own IRAD or garnering interest from another agency to further advance the technology so it gets to the maturity level at which its very attractive to the transitioning organization. So dual use is very important," Attick explained.

"The third factor in the study was technical content. Was the technology feasible? Could it be matured? How well did the company execute? And of course the nature of the technology itself has a lot of bearing as well," said Husni. This factor is the company's responsibility. To succeed, you need a team. "You need both a great TPOC and great

Navy representation but you also need, obviously, a great company."

McGovern advised working with tech subject matter experts to understand the requirements, end users to understand how the technology will be used, and the program office to understand program requirements, which will help with stakeholder buy-in of the proposed technology.

"Be responsive and flexible to the needs of the customer within the confines of your contract. Collaboration is the key. Early planning is important and agility is essential. Developing capability sets or modular aspects of overall technology via multiple efforts can yield a more robust end solution and provide an increased return on investment," advised McGovern.

"You should be able to quantify and define where your technology is on the technology readiness level scale. It's not enough to declare a TRL. You should also be prepared to document how you demonstrated it. This includes defining the relevant environment used to demonstrate TRL 6, which is the key transition readiness level for acquisition programs. You must be clear on limitations and future goals to avoid misrepresenting technology capabilities that might lead to a product falling short of expectations. Aligning your technology maturation plan with program test plans and upgrades will enable you to leverage transition opportunities and will increase your chances of success," said McGovern.

Transition planning considers how the company will take what is developed in the lab and make the leap to production and fielding. "A lot of times a research lab is great for innovation and for coming up with new technologies but maybe not structured for production either physically—the tooling, the workers—or businesswise—the financial structure," Husni said.

"It's always a benefit for us if you have a relationship with a prime to get their interest. We can often provide you some S&T points of contact



## NAVAIR FST Days...Continued

there if you don't have any but certainly it's a plus as you come as partners or you have some endorsement. Often primes will provide letters to let the government know that they're interested in a particular project so it's really seeking out their organizations and getting in front of them and presenting your technology," said Mr. Larry Branthoover, assistant program executive officer for science and technology for the Tactical Aircraft Program Executive Office (PEO(T)).

Have briefs, white papers, and quads ready so you're always prepared to give information about your company and technology, advised Branthoover. Share it with the proper markings, make sure you're protecting your technology and keep classified information out of your briefs. Always include your SBIR/STTR topic numbers.

McGovern suggested having different versions of a brief for different audiences. "It's important to understand the difference between briefing a technical point of contact versus briefing the captain of a PMA or even a fleet user. The captain's not going to care and not be that interested in the deep technical details but he wants to know what it's going to do for him, what capability it's going to add, how it's going to improve his schedule, that kind of thing. The technical person really does care about that deeper discussion. And when you're briefing the fleet obviously they want to know what's in it for them. So have three different versions of the brief ready to go. And I'd add the primes into that. It depends on who you're talking

to at the primes. You've got the technical folks there as well and you've got the business people so three different versions are essential."

"Be flexible. Think outside the box; provide ideas to your government points of contact; consider technology for different applications and platforms and be willing to team. Not just with the government but with industry partners, and universities, and other small businesses. Make sure you have the right documentation for the teaming and always be on the lookout for new opportunities, and most important, understand the SBIR program and the doors it opens for you," advised Branthoover.

Small businesses that need more help transitioning technology to the DoN may be able to take advantage of the Mentor Protégé Program. The program, funded by Congress, incentivizes DoD contractors to assist small businesses in enhancing their capabilities and increasing their participation in government and commercial contracts.

"We've had over 80 mentor protégé agreements since the program's inception and we're looking for more opportunities where two industry partners get together and determine what one can do to help another and they can pass along that teamed agreement bill to the Department of Defense as long as the DoD gets the benefit of those two organizations partnering together," said Jimmy Smith, director for DoN's OSBP.

## NAVAIR FST SPEAKERS



Donna Attick, NAVAIR SBIR and STTR program manager



Shelby Butler, director of the NAVAIR Office of Small Business Programs



Todd Purcell, director, Chief Technology Office at NAVAIR



Janet McGovern, senior science and technology advisor to the NAVAIR Aviation Common Systems and Commercial Services Program Executive Office



Mr. Larry Branthoover, assistant program executive officer for science and technology for the Tactical Aircraft Program Executive Office



Mark Husni, science and technology lead for the Naval Air Warfare Center Aircraft Division Lakehurst

## Resources for Doing Business with Navy OSBP and Acquisition Commands

### NAVAIR OSBP LEADERSHIP TEAM

Naval Air Warfare Center HQ	Patuxent River, Md.	Shelby Butler	301-757-9044	<a href="mailto:shelby.butler@navy.mil">shelby.butler@navy.mil</a>
Naval Air Warfare Center HQ	Patuxent River, Md.	Victoria Butler	301-757-9087	<a href="mailto:victoria.butler@navy.mil">victoria.butler@navy.mil</a>
Naval Air Warfare Center AD	Patuxent River, Md.	Cynthia Thompson	301-995-4260	<a href="mailto:cynthia.m.thompson@navy.mil">cynthia.m.thompson@navy.mil</a>
Naval Air Warfare Center Aircraft Division	Patuxent River, Md.	Lawrence Butts	301-757-5258	<a href="mailto:lawrence.butts@navy.mil">lawrence.butts@navy.mil</a>
Naval Air Warfare Center Aircraft Division	Lakehurst, N.J.	Dawn Chartier	732-323-2942	<a href="mailto:dawn.chartier@navy.mil">dawn.chartier@navy.mil</a>
Naval Air Warfare Center Training Systems Division	Orlando, Fla	Leslie Faircloth	407-380-4043	<a href="mailto:leslie.faircloth@navy.mil">leslie.faircloth@navy.mil</a>
Naval Air Warfare Center Weapons Division	Point Magu, Calif.	Derrick Hu	760-939-2712	<a href="mailto:derrick.hu@navy.mil">derrick.hu@navy.mil</a>

### ACQUISITION COMMANDS

U.S. Marine Corps Installations and Logistics (HQMC I&L)	Ground Equipment	703-604-3656	<a href="http://www.iandl.marines.mil">www.iandl.marines.mil</a>
Marine Corps Systems Command (MCSC)	Ground Weapons and IT Systems	703-432-3946	<a href="http://www.marcorsyscom.marines.mil">www.marcorsyscom.marines.mil</a>
Naval Facilities Engineering Command (NAVFAC)	Construction and Facilities	202-685-9129	<a href="http://www.navfac.navy.mil">www.navfac.navy.mil</a>
Strategic Systems Programs (SSP)	Strategic Weapons Systems (Missile Systems)	202-433-7857	<a href="http://www.ssp.navy.mil">www.ssp.navy.mil</a>
Naval Supply Systems Command (NAVSUP)	Majority of Navy Buys, Services, Material, Logistics, Maritime, Aviation Spares, Etc.	717-605-1663	<a href="http://www.navsup.navy.mil">www.navsup.navy.mil</a>
Military Sealift Command (MSC)	Ocean Transportation	757-443-1435	<a href="http://www.msc.navy.mil/business">www.msc.navy.mil/business</a>
Naval Air Systems Command (NAVAIR)	Aviation	301-757-9044	<a href="http://www.navair.navy.mil/osbp">www.navair.navy.mil/osbp</a>
Naval Information Warfare Systems Command (NAVWAR)	Information Technology/ Communications	619-524-7701	<a href="http://www.spawar.navy.mil">www.spawar.navy.mil</a>
Office of Naval Research (ONR)	Research and Development (SBIR)	703-696-2607	<a href="http://www.onr.navy.mil">www.onr.navy.mil</a>
Naval Sea Systems Command (NAVSEA)	Shipbuilding	202-781-2061	<a href="http://www.navsea.navy.mil">www.navsea.navy.mil</a>

## Department of the Navy, Small Business Resources

The following resources are available to help small businesses understand Navy policies and priorities.

RESOURCE	LINKS
Department of The Navy Office of Small Business Programs Small Business Enterprise FY 2020-2021 Operations Plan	<a href="https://www.secnave.navy.mil/smallbusiness/Documents/SB-Strategic-Plan-Updated-07APR20.pdf">https://www.secnave.navy.mil/smallbusiness/Documents/SB-Strategic-Plan-Updated-07APR20.pdf</a>
Summary of the 2018 National Defense Strategy of The United States of America: Sharpening the American Military's Competitive Edge	<a href="https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf">https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf</a>
Department of the Navy Business Operations Plan Fiscal Years 2021-2023	<a href="https://www.secnave.navy.mil/bop/Documents/DON_BU-SOPS_Strategy_3.0_28OCT2020%20_final_MedRes.pdf">https://www.secnave.navy.mil/bop/Documents/DON_BU-SOPS_Strategy_3.0_28OCT2020%20_final_MedRes.pdf</a>
New Product Service Codes (PSCs) manual with new SBIR/STTR codes	<a href="https://www.acquisition.gov/sites/default/files/manual/October%202020%20PSC%20Manual.pdf">https://www.acquisition.gov/sites/default/files/manual/October%202020%20PSC%20Manual.pdf</a>
NAVAIR website	<a href="http://www.navair.navy.mil">www.navair.navy.mil</a>
NAVAIR OSBP website	<a href="http://www.navair.navy.mil/osbp">www.navair.navy.mil/osbp</a>
NAVAIR Long Range Acquisition Forecast	<a href="http://www.navair.navy.mil/LRAF">www.navair.navy.mil/LRAF</a>
FPDS website—find what NAVAIR has procured in the past	<a href="https://beta.sam.gov/reports/awards/standard">https://beta.sam.gov/reports/awards/standard</a>

### Selling to the Government

The U.S. General Services Administration (GSA) Schedule, also referred to as the Multiple Award Schedule (MAS) and the Federal Supply Schedule, is a long-term governmentwide contract with commercial firms providing federal, state, and local government buyers access to more than 11 million commercial products and services at volume discount pricing. Although the schedule is the premier vehicle for government sales, including federal, state, and local government agencies, they are not the only option. The schedule can be found at [SAM.gov](https://www.sam.gov).

Under the MAS Program, industry partners sell their commercial goods and services directly to government agencies. GSA works with industry partners to make sure they are compliant with basic federal regulations and policies and offer goods and services at fair and reasonable prices. This partnership allows agencies to use

streamlined ordering procedures to purchase, saving all parties time and money.

In FY2020, the 24 legacy schedules were consolidated into a single schedule, broken down into 12 large categories:

- Office Management Category
- Facilities Category
- Furniture & Furnishing Category
- Human Capital Category
- Industrial Products & Services Category
- Information Technology Category
- Miscellaneous Category
- Professional Services Category
- Scientific Management and Solutions Category
- Security & Protection Category
- Transportation and Logistics Services Category
- Travel Category



**The GSA Schedule can be a powerful tool for suppliers; however, you do not need a schedule contract to do business with the government.**

Getting a Multiple Award Schedule (MAS) or Schedule contract does not guarantee business with the government. Your contract will need to be managed and marketed, and you will need to actively pursue opportunities to work with the government.

If you choose to pursue a schedule contract, you will need to:

- Understand and compile the information and requirements documents to send an offer,
- Review and understand your product and service offerings and unique category requirements,
- Complete required training, and
- Complete and send an offer through the eOffer/eMod system.

A GSA contracting representative will be assigned to review and evaluate your offer.

Complete well-documented offers with competitive pricing are easier and faster to review. However, complete review by GSA, potential negotiations, and award may take up to 12 months.

To be eligible for a schedule contract, you must have been in business for two years and provide two years of financial statements, unless you are eligible for the [Springboard Program](#), applicable to specific Information Technology offerings. The Springboard site on the <https://www.gsa.gov/> website outlines the parameters.

You must also have measurable past performance. Experience related to three or more previous federal contracts, with ratings available in Contractor Performance Assessment Reporting System (CPARs) available at <https://www.cpars.gov/> is acceptable.

If you do not have previous federal experience, you may use federal and non-federal references from six or more previous customers, to obtain a past performance and evaluation

The GSA Schedule can be a powerful tool for suppliers; however, you do not need a schedule contract to do business with the government. To gain federal experience, you can pursue subcontracting opportunities and open market opportunities.

The Commercial Platforms program provides an option to partner individually or collectively with three commercial e-marketplace platforms (Amazon Business, Fisher Scientific, or Overstock Government).

The Office of Small Business Utilization (OSBU) can help you learn how to conduct market research using FPDS, and connect you with training for getting on schedule and developing leads. Visit the office website at <https://www.gsa.gov/small-business>.

# Navy FST Days: A Small Business Perspective

By Julie Scuderi

## Navy SYSCOM Forum for SBIR/STTR Transition Focused Technology Virtual Events



Over a year into the pandemic and committed to providing small businesses with ample opportunities to showcase their SBIR-funded technologies, the Department of Navy's SBIR/STTR Transition Program (Navy STP) focused on its own kind of transition—the move from in-person events to virtual showcases. The 2021 Naval System Commands (SYSCOMs) Forum for SBIR/STTR Transition focused technology events (FST Days) provided small businesses the means to continue to connect with key Navy personnel and others in the industry, all while unveiling the products and solutions that answer the Navy's needs and will better equip the warfighter.

The Naval Air Systems Command (NAVAIR), Naval Sea Systems Command (NAVSEA) and Naval Information Warfare Systems Command (NAVWAR) all held virtual FST Days in 2021. The format aimed to replicate the traditional Navy FST events, but with a few notable adjustments. Tech Talks on demand were a popular feature of the new online platform, since it allowed attendees to view as many presentations as desired, at their leisure, without having to coordinate a schedule. In fact, the number of views for the Tech Talks significantly rose from in-person events due to the flexibility in scheduling.

The Virtual Expo Hall housed all the presenting companies that created virtual booths, and attendees could navigate around just as they

would at a live event. Once in a company virtual booth, attendees could view the small business details, background, contact information, resources such as company capability brochure and quad chart, tech talks, and video chats. Attendees could browse exhibitions by topic number, technology area, or company name. For the presenters, live streams of keynotes, guest speakers, and useful information for small businesses straight from Navy leadership rounded out the events.

*"The online platforms provided a nice user interface and user experience. We made a few key connections, and overall, it's easier to find new names and contacts, since you're able to search keywords."*

Hermann Kugeler, business development manager at Makai Ocean Engineering

Since this was an entirely new dynamic for the Navy, attendees and presenters, we wanted to know: What was the experience like for the small businesses?

We sat down with several companies, each of which participated in at least two of the Navy FST Days, to glean insight and feedback from the online events. While the consensus as it pertains to networking was all the same—yes, it's hard to beat the connections forged by in-person social networking—the virtual platform provided some unforeseen benefits (and even purchase orders) that we're excited to share here.

Hawaii-based Makai Ocean Engineering presented at both the NAVSEA and NAVWAR FST Days, using the latter opportunity to showcase its Distributed Temperature Sensing Tow Cable it developed with funding from the Office of Naval Research (ONR) SBIR program.

*Navy FST Days...Continued*

Makai is no stranger to transitioning SBIR technologies to the fleet and while the company has a long history of attending technology events hosted by the Navy, this was its first experience with a virtual model.

“The online platforms provided a nice user interface and user experience,” explains Hermann Kugeler, business development manager at Makai. “We made a few key connections, and overall, it’s easier to find new names and contacts, since you’re able to search keywords.”

However, all events have their inherent challenges. As Kugeler says, the remote dynamic necessitates an active and attentive audience. If users only passively attend and/or are distracted with other commitments, connections are harder to align.

To address this challenge, he recommends attendees devote their full time to the events, and fill out their attendee profile information.

“Looking to the future, a hybrid event would be ideal,” he adds. This way, presenters could leverage the mobile networking tool to find attendees, but then use the in-person advantage to close the deal.

Daniel H. Wagner Associates (DHWA) was another longstanding SBIR awardee that participated in the NAVAIR and NAVWAR FST Days. The Pennsylvania-based small business presented its Active SONAR Statistical Estimation Tool (ASSET) at the NAVAIR event, while showcasing its Automated Active Sonar Interference Avoidance Algorithms (ASIA) at the NAVWAR event. Having amassed over \$64M in Phase III revenue resulting from its SBIR-funded technologies, the team at DHWA knows a thing or two about successful transition. They used the opportunities provided by SYSCOM FST Days to further connections, view innovations developed by other small businesses in the industry, and

get their Tech Talks out to as many attendees as possible.

“The main goal is still the same—to work closely with the Navy, get all the data, find out what the problems are, and demonstrate solutions,” says Reynolds Monach, CEO and president of DHWA. “The tech talks on demand were a great feature, and one that I hope continues even when we get back to live events.”

TDA Research, located near Denver, presented at all three Navy FST Days this year. At the NAVWAR event, Senior Chemist Wallace Ellis showcased the company’s Automated Suppressor Cleaning System, designed to extend the life of suppressors used by Marines on sniper rifles. Since suppressors can oftentimes cost more than the rifles, replacing them at up to \$1000 per unit gets very costly. Ellis unveiled his SBIR-funded technology, which removes carbon, lead and copper from suppressors in under 40 minutes, to a slew of interested attendees. Many times, SBIR innovations reach new audiences and end users when the benefits are demonstrated. Such was the case when attendees from the Army saw the technology presented at the NAVWAR FST Day, which led to a new purchase order for TDA.

“We received a broad audience for our technologies from FST Days and that was definitely the biggest benefit for us,” says Ellis, who now hopes to bring his solution to police departments around the country.

All in all, presenters and attendees alike made the best of the temporary need for virtual Navy FST Days. Moving forward, the Navy can use the lessons learned and challenges faced to provide the very best platform that will foster collaboration, connection, and ultimately, the continuing success of small business solutions meeting the needs of our fleet.



# Rear Admiral Kurt Rothenhaus kicks off NAVWAR FST Day; Seeks to Equip Sailors with Small Business Solutions

By Julie Scuderi



The NAVWAR Forum for SBIR/STTR Transition Focused Technology Event (NAVWAR FST Day), debuted virtually on April 28, and the event's keynote, delivered by Rear Admiral Kurt Rothenhaus, had one resounding message for small businesses: "We want your ideas!"



Rear Adm. Kurt Rothenhaus, Program Executive Officer, Command, Control, Communications, Computers, Intelligence and Space Systems

The event was a culmination of the tireless efforts of the Navy STP participants, with an abundance of game-changing solutions designed to better equip our Sailors and Marines and to continue to bolster and support the world's strongest fleet.

Rothenhaus, who serves as Program Executive Officer, Command, Control, Communications, Computers, Intelligence (C4I) and Space Systems, recognized the essential contributions of small businesses, and asked them to continue leveraging their expertise and ingenuity with the goal of delivering even more capabilities at a faster pace.

PEO C4I and Space Systems oversees systems that span "from the sea floor all the way to space," and Rothenhaus acknowledged how fortunate his program office has been to be a part of the small business community. "From innovation in research, to developing prime mission products and support, small businesses have been a central part of the engine of our program's success," he added.

Looking to the future, Rothenhaus highlighted three key strategic initiatives he hopes small businesses will focus on to continue to meet the growing demand of NAVWAR:

1. Self-Sufficiency of Sailors—Whether through training materials, design of the system, or the training itself, small businesses have been instrumental in improving these initiatives. Rothenhaus challenged small businesses to keep this goal in mind and to ask themselves: How can we continue to support our Sailors?
2. DevSecOps (Development, Security & Operations)—Accelerating the delivery of security software to our submarines is a critical effort of NAVWAR and the C4I Program Office. Rothenhaus is dedicated to removing the barrier of entry for companies that develop technologies aimed at this initiative, so that small business can keep the focus on its unique capabilities.
3. Digitization—Leveraging the latest in digital technology, such as artificial intelligence (AI), Rothenhaus pondered the potential of how best to support the fleet. He is turning to small businesses to develop these capabilities, and to put them into the hands of our Sailors quickly. With SBIR, novel ideas can rapidly transition to development, and he is looking forward to seeing what small businesses are going to bring to the table.

Several of the small businesses participating in the NAVWAR FST Day directly answered this call with technology supporting these key initiatives. The virtual tech talks and online event demonstrated these modern innovations designed with agility and affordability in mind.

*Rear Admiral Kurt Rothenhaus...Continued*

With the goal of increasing self-sufficiency for our Sailors and Marines, small businesses showed the Navy they could meet this demand.

For example, Virginia-based Daniel H. Wagner unveiled its Automated Active Sonar Interference Avoidance algorithms (ASIA), designed to improve situational awareness and threat detection, reduce the time to detect and classify a submarine target of interest, and reduce operator time-on-task.

Meanwhile, Hawaii-based Makai Ocean Engineering presented its distributed temperature sensing tow-cable, designed to replace inefficient methods for measuring seawater temperature on surface ships.

In the security software sector, San Diego-based Object Security highlighted its solution to the needs discussed by Rothenhaus by presenting RedBox—an Automated Embedded Systems Vulnerability Assessment tool that is portable, non-destructive, and able to be used offline.

The Navy's digitization initiative was also met with eager contributors. Denver-based Stilman

Advanced Strategies presented its Real-Time Adversarial Intelligence and Decision-Making System, or RAID, which leverages AI to provide predictive battlespace awareness and intelligence.

In addition, Cyan Systems Corporation joined the event from California and gave a Tech Talk to discuss its Multiband Super Resolution Sensor Technology, designed to provide the very best in high-definition digital imagery to detect hostile fire at a significantly longer range than current systems.

Overall, Rothenhaus set a tone of excitement and collaboration as the NAVWAR FST Day commenced online. Understanding how small businesses can seamlessly fill the needs of NAVWAR and provide our men and women at sea with the tools they need to succeed, Rothenhaus was grateful to the many SBIR and STTR recipients who came together at the NAVWAR FST Day to showcase their cutting-edge technologies and solutions. After thanking them for what they do for our Navy and for our nation, he circled back to what SBIR is about—the partnerships with small businesses, which he is thrilled to continue.



## First Look: A Snapshot of this year's DoN SBIR/STTR Transition Program (Navy STP) Participants



The following pages provide a first look at the innovative Phase II companies currently enrolled in the DoN SBIR/STTR Transition Program (Navy STP). The companies are listed by SYSCOM in alphabetical order, under OSD Communities of Interest (Col) categories most appropriate to their technology. If you see something of interest and want to know more, please contact the company directly. Corporate information and technology quad charts, abstracts, thumbnail descriptions, and company capability brochures for the companies listed below will be available through the Virtual Transition Marketplace (VTM) online database of innovative Phase II SBIR/STTR technologies in December 2021. You can access the VTM at: <https://www.navyfst.com/vtm/>.

DoN SBIR/STTR Transition Program (Navy STP) Participants						
	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Advanced Electronics	NAVSEA					
	Figure, Inc. d/b/a Figure Engineering	N192-119	Alex Mazzotta	(571)250-8964 x12	<a href="mailto:alexander.mazzotta@figureengineering.com">alexander.mazzotta@figureengineering.com</a>	NAVSEA FST Days
	Autonomous Collective Protection System (CPS)					
	NAVWAR					
	Vision Engineering Solutions, LLC	AF191-D001	Kenneth J. Evans Jr.	(321)978-0365	<a href="mailto:kevans@vision.engineering">kevans@vision.engineering</a>	S-A-S 2022
	Low Cost Laser Communications Ground Terminal Network					
	ONR					
	Physical Sciences Inc.	N192-126	Chris Evans		<a href="mailto:cevens@psicorp.com">cevens@psicorp.com</a>	NAVSEA FST Days
	Metamaterial Devices for Photonic Systems					
	Voss Scientific, LLC	N171-085	Don Voss	(505)255-4201	<a href="mailto:donv@vosssci.com">donv@vosssci.com</a>	NAVSEA FST Days
Air Platforms	Transportable Ultrashort Pulsed Laser (USPL) Characterization System					
	NAVWAR					
	ATA Engineering, Inc.	N18B-T029	Ms. Heather Wilkens	(858)480-2043	<a href="mailto:heather.wilkens@ata-e.com">heather.wilkens@ata-e.com</a>	NAVAIR FST Days
	Systematic Fatigue Test Spectrum Editing Using Wavelet Transformations					
	AVNIK Defense Solutions, Inc.	N182-100	Michele Platt	(256)682-6261	<a href="mailto:michele.platt@avnikdefense.com">michele.platt@avnikdefense.com</a>	NAVAIR FST Days
	Data Analytics for Navy Aircraft Component Fatigue Life Management					
	Barron Associates, Inc.	N181-017	Alec Bateman	(434)973-1215	<a href="mailto:bateman@bainet.com">bateman@bainet.com</a>	S-A-S 2022
	Real-time Turbulence Recognition and Reporting System for Unmanned Systems					



## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Air Platforms	BCO Inc.	N171-029	Martin Schrage	(978)663-2525	<a href="mailto:mschrage@bco-inc.com">mschrage@bco-inc.com</a>	NAVAIR FST Days
	Accurate Sensing of Low Speed Vehicle Motion Relative to a Moving Platform					
	Cascade Technologies Incorporated	N14A-T005	Guillaume Bres	(650)521-0243	<a href="mailto:gbres@cascadetechnologies.com">gbres@cascadetechnologies.com</a>	WEST 2022
	Design Optimization and Analysis of Advanced Exhaust Systems					
	CFD Research Corporation	N17A-T002	Timothy Dawson		<a href="mailto:tim.dawson@cfdr.com">tim.dawson@cfdr.com</a>	NAVAIR FST Days
	Multi-Phase Flame Propagation Modeling for Present and Future Combustors and Augmentors					
	Continental Controls and Design, Inc.	N171-028	James P Hynes	(714)356-7835	<a href="mailto:jim.hynes@continentalctrls.com">jim.hynes@continentalctrls.com</a>	NAVAIR FST Days
	Lightweight Self-Start System for T56 Engine Driven Aircraft					
	Cornerstone Research Group, Inc.	N192-052	Jacob Monat	(937)451-7040	<a href="mailto:monatja@crgroup.com">monatja@crgroup.com</a>	NAVSEA FST Days
	Advanced Aircraft Electrical Load Management System					
	Data Fusion & Neural Networks, LLC	N193-A01	Christopher Bowman	(303)469-9828	<a href="mailto:cbowman@df-nn.com">cbowman@df-nn.com</a>	NAVAIR FST Days
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	International Mezzo Technologies, Inc.	N102-110	Charles Becnel	(225)706-0191	<a href="mailto:becnel@mezzotech.com">becnel@mezzotech.com</a>	NAVAIR FST Days
	Cooling/Thermal Management System Development for Active Denial Technology (ADT) and High-Power Radio-Frequency Vehicle Stopper (RF) Systems					
	Knowledge Based Systems, Inc.	N193-A01	Mike Painter	(979)575-7180	<a href="mailto:mpainter@kbsi.com">mpainter@kbsi.com</a>	NAVAIR FST Days
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	Luna Innovations Incorporated	N191-015	Kelley Virgilio	(434)220-7699	<a href="mailto:virgiliok@lunainc.com">virgiliok@lunainc.com</a>	NAVAIR FST Days
	Enhancing Seated Aircrew Endurance					
	Northwest UAV	N10A-T001	Jeffrey Ratcliffe		<a href="mailto:jeff.ratcliffe@nwuav.com">jeff.ratcliffe@nwuav.com</a>	S-A-S 2022
	Advanced Materials for the Design of Lightweight JP5/JP8/DS2 Fueled Engines for Unmanned Aerial Vehicles (UAVs)					
	Oceanit Laboratories, Inc.	N16A-T008	Bryce Davis	(808)531.3017 ext. 162	<a href="mailto:bdavis@oceanit.com">bdavis@oceanit.com</a>	S-A-S 2022
	Novel Separator Materials for Achieving High Energy/Power Density, Safe, Long-Lasting Lithium-ion Batteries for Navy Aircraft Applications.					
	OptiNav, Inc.	N102-128	Robert P. Dougherty	(425)891-4883	<a href="mailto:rp@optinav.com">rp@optinav.com</a>	S-A-S 2022
	Predictions of the Acoustic Nearfield on a Carrier Deck					
	SA Photonics, Inc.	N10B-T049	David Cushman	(408)642-0305	<a href="mailto:d.cushman@saphotonics.com">d.cushman@saphotonics.com</a>	NAVAIR FST Days
	Expanding Helicopter Pilots Field of View with Spherical Sensing					

## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Air Platforms	SA Photonics, Inc.	N181-027	Dave Pechner	(408)376-0989	<a href="mailto:d.pechner@saphotonics.com">d.pechner@saphotonics.com</a>	WEST 2022
	Free Space Optical (FSO) Communications in a Radio Frequency (RF) Denied Environment					
	SAFE, Inc.	N171-026	Jim Schroeder	(720)256-1030	<a href="mailto:jim.schroeder@safeinc.us">jim.schroeder@safeinc.us</a>	NAVAIR FST Days
	Aircrew-Mounted Self-Adjusting Tether System					
	Systems Technology, Inc.	NASA16-A105	David H. Klyde	(310)679-2281	<a href="mailto:dklyde@systemstech.com">dklyde@systemstech.com</a>	NAVAIR FST Days
	Physics-Based Computational Tools - Stability and Control/High Lift Design Tools					
	TDA Research, Inc.	N19B-T032	Brady Clapsaddle	(303)261-1145	<a href="mailto:bclapsaddle@tda.com">bclapsaddle@tda.com</a>	NAVAIR FST Days
	Physics-Based Computational Tools - Stability and Control/High Lift Design Tools					
	Texas High Energy Materials, LLC	N151-008	Aaron Collins		<a href="mailto:aaroncollins428@gmail.com">aaroncollins428@gmail.com</a>	S-A-S 2022
	Innovative, Low Cost, Highly Durable Fuel Bladder for Naval Applications					
Autonomy	Texas High Energy Materials, LLC	N181-019	Liano Perez		<a href="mailto:lianoperez93@gmail.com">lianoperez93@gmail.com</a>	WEST 2022
	Innovative Material (and Application Method) for a Hydrophobic/Oleophobic Coating to an Aluminum-Bodied Heat Exchanger					
	ONR					
	Hydronalix, Inc.	N201-X01	Jaime Lara	(520)266-6554	<a href="mailto:jaime.lara@hydronalix.com">jaime.lara@hydronalix.com</a>	S-A-S 2022
	ADAPT - Advanced, Agile Manufacturing of Limited-Production Swarming Unmanned Systems (UxS) to Support Humanitarian Assistance and Disaster Relief (HADR) Operations					
	Materials Research & Design	N191-043	Kerry Howren		<a href="mailto:kerry.howren@m-r-d.com">kerry.howren@m-r-d.com</a>	WEST 2022
	Development of Ultrasonically Absorptive Aeroshell Materials for Hypersonic Boundary Layer Transition (BLT) Delay					
	SA Photonics, Inc.	N182-132	Dave Pechner	(408)376-0989	<a href="mailto:d.pechner@saphotonics.com">d.pechner@saphotonics.com</a>	WEST 2022
	Networked Airborne Free Space Optical Communications					
	NAVSEA					
Autonomy	GMATEK, Inc.	N193-A02	Glenn R. Wright	(443)951-8001	<a href="mailto:glenn@gmatek.com">glenn@gmatek.com</a>	S-A-S 2022
	Unmanned Surface Vehicle (USV) and Unmanned Underwater Vehicle (UUV) Autonomous Behavior Development					
	Hydronalix, Inc.	N102-182	Jaime Lara	(520)266-6554	<a href="mailto:jaime.lara@hydronalix.com">jaime.lara@hydronalix.com</a>	NAVAIR FST Days
	Compact, Lightweight Autonomous Underwater Vehicle (AUV) with Robust Navigation and Range for Riverine Reconnaissance					
	Spatial Integrated Systems, Inc.	N193-A02	Rick Simon	(757)288-9818	<a href="mailto:rick.simon@sisinc.org">rick.simon@sisinc.org</a>	NAVSEA FST Days
	Unmanned Surface Vehicle (USV) and Unmanned Underwater Vehicle (UUV) Autonomous Behavior Development					
	The Innovation Laboratory, Inc.	N193-A01	Jimmy Krozel	(503)863-0012	<a href="mailto:jimmy.krozel@gmail.com">jimmy.krozel@gmail.com</a>	WEST 2022
Autonomy	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					

## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Autonomy	Trident Systems Incorporated	N193-A02	David Braddy	(571)247-7641	<a href="mailto:david.braddy@tridsys.com">david.braddy@tridsys.com</a>	S-A-S 2022
	Unmanned Surface Vehicle (USV) and Unmanned Underwater Vehicle (UUV) Autonomous Behavior Development					
	NAVWAR					
	Quantum Ventura Inc.	N193-A01	Srini Vasan	(424)227-1417	<a href="mailto:srini@quantumventura.com">srini@quantumventura.com</a>	WEST 2022
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	ONR					
	Compass Systems Inc.	N204-A01	Darrel Tenney	(301)737-4640	<a href="mailto:Darrel.Tenney@compass-sys-inc.com">Darrel.Tenney@compass-sys-inc.com</a>	NAVSEA FST Days
Battlespace Environments	Naval Depot Modernization and Sustainment					
	Dynamic Dimension Technologies	N181-077	Karl Leodler	(703)963-2204	<a href="mailto:kloedler@dynamicdimension-technologies.com">kloedler@dynamicdimension-technologies.com</a>	S-A-S 2022
	Surf Zone Simulation for Autonomous Amphibious Vehicles					
	Service Robotics & Technologies, Inc.	N201-X02	Jessica Bryan	(801)860-8543	<a href="mailto:jessica@srtlabs.com">jessica@srtlabs.com</a>	S-A-S 2022
	ADAPT - Naval Depot Modernization and Sustainment					
	NAVAIR					
	DZYNE Technologies Incorporated	SB162-009	Nick Ton	(703)517-7415	<a href="mailto:nton@dzynetech.com">nton@dzynetech.com</a>	NAVSEA FST Days
Biomedical (ASBREM)	Software/Analytics Exploiting Commercial Satellite Imagery					
	ONR					
	Applied Ocean Sciences	N19A-T022	Dr. Emanuel Coelho	(228)342-4773	<a href="mailto:emanuel.coelho@appliedoceansciences.com">emanuel.coelho@appliedoceansciences.com</a>	S-A-S 2022
C4I	Reduced Order Modeling (ROM) for UUV/USV Environmental Awareness					
	MCSC					
	Physical Sciences Inc.	N142-089	Alex Moerlein	(978)738-8153	<a href="mailto:amoerlein@psicorp.com">amoerlein@psicorp.com</a>	S-A-S 2022
	Foldable High G-Force Resistant Patient Litter					
	Technology Holding, LLC	N182-096	Mukund Karanjikar	(801)953-1047	<a href="mailto:mukund@tekholding.com">mukund@tekholding.com</a>	S-A-S 2022
C4I	Portable Ruggedized Energy Efficient Medical Sterilizer (PREEMS)					
	Vivonics, Inc.	N171-002	Ryan Myers		<a href="mailto:rmyers@vivonics.com">rmyers@vivonics.com</a>	S-A-S 2022
	Intranasal Cooling for Encephalopathy Prevention (ICEP)					
C4I	MCSC					
	Vulcan Wireless Inc.	N181-003	Kevin Lynaugh	(760)602-0606	<a href="mailto:klynaugh@vulcanwireless.com">klynaugh@vulcanwireless.com</a>	S-A-S 2022
C4I	USMC Ground Radio LPI/LPD Interference Mitigation Active Communication Antenna					



## First Look...Continued

Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST	
Command, Control, Communications, Computers, & Intelligence (C4I)	NAVAIR					
	4S - Silversword Software and Services, LLC	N192-082	Ronald Smith	(240)330-5602	<a href="mailto:smith@4s-llc.com">smith@4s-llc.com</a>	NAVAIR FST Days
	Mobile Phased Array Antenna for Robotic Autonomous Systems (RAS) Using Optical Broadband Communications					
	Colvin Run Networks, Inc.	N191-013	Nikhil Shenoy	(703)967-1967	<a href="mailto:nikhil@colvinrun.net">nikhil@colvinrun.net</a>	NAVAIR FST Days
	Maritime Big Data Analytics					
	Dirac Solutions Inc.	DOE16-030	Faranak Nekoogar	(408)421-7537	<a href="mailto:faranak@diracsolutions.com">faranak@diracsolutions.com</a>	NAVSEA FST Days
	Advanced Technologies for Nuclear Energy					
	DZYNE Technologies Incorporated	N172-112	Nick Ton	(703)517-7415	<a href="mailto:nton@dzynetech.com">nton@dzynetech.com</a>	NAVSEA FST Days
	Relevant Image Mosaic Image Management Algorithm Development					
	R-DEX Systems, Inc.	N193-A01	Robert Bock	(678)641-2380	<a href="mailto:robert@r-dex.com">robert@r-dex.com</a>	S-A-S 2022
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	Stottler Henke Associates, Inc.	N193-A01	Eric Domeshek	(617)945-8350	<a href="mailto:domeshek@stottlerhenke.com">domeshek@stottlerhenke.com</a>	S-A-S 2022
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	TeamWorx Security, LLC	N193-A01	Ken Holliday	(703)507-4106	<a href="mailto:ken@teamworxsecurity.com">ken@teamworxsecurity.com</a>	S-A-S 2022
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	NAVSEA					
	ARiA	N19B-T035	Craig Einstein	(917)679-6199	<a href="mailto:craig.einstein@ariaacoustics.com">craig.einstein@ariaacoustics.com</a>	S-A-S 2022
	Universal Sensor Application Programming Interface (API) for Undersea Data					
	ASSETT, Incorporated	N093-192	James Shannon	(703)365-2200	<a href="mailto:james.shannon@asset.net">james.shannon@asset.net</a>	S-A-S 2022
	Real-time Decision Aid for Enhancing Ship's Self-defense					
	Daniel H. Wagner Associates, Incorporated	N192-093	Reynolds Monach	(757)727-7700	<a href="mailto:reynolds@va.wagner.com">reynolds@va.wagner.com</a>	WEST 2022
	Threat Prioritization Decision Aid for Theater Anti-Submarine Warfare (TASW)					
	Holochip Corporation	N171-076	Robert Batchko		<a href="mailto:rgb@holochip.com">rgb@holochip.com</a>	WEST 2022
	Light-field Processing Unit for Extreme Multi-View Displays					
	Intelligent Automation, Inc.	N191-034	Xiaoxiao Wang		<a href="mailto:xwang@i-a-i.com">xwang@i-a-i.com</a>	NAVSEA FST Days
	Automated Multi-System Course of Action Analysis Using Artificial Intelligence					
	Jove Sciences, Inc.	N193-A01	James Wilson	(949)366-6554	<a href="mailto:jwilson@jovesci.com">jwilson@jovesci.com</a>	WEST 2022
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					

## First Look...Continued

	Command, Control, Communications, Computers, & Intelligence (C4I)					
	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
	Mosaic ATM, Inc.	N191-032	Jim Gardner	(757)618-7075	<a href="mailto:jgardner@mosaicatm.com">jgardner@mosaicatm.com</a>	S-A-S 2022
	Artificial Intelligence Real-Time Track Modeling and Simulation for Combat Systems					
	North Point Defense, Inc.	N193-A01	Benjamin Pokines		<a href="mailto:bpokines@northpointdefense.com">bpokines@northpointdefense.com</a>	NAVSEA FST Days
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	Vy Corporation	N193-A02	John Freyhof		<a href="mailto:john.freyhof@vycorporation.com">john.freyhof@vycorporation.com</a>	S-A-S 2022
	Unmanned Surface Vehicle (USV) and Unmanned Underwater Vehicle (UUV) Autonomous Behavior Development					
	NAVWAR					
	Adaptive Dynamics, Inc.	NOAA161-844D	Dr. James Zeidler	(858)673-1016	<a href="mailto:jrz@adaptive-dynamics.com">jrz@adaptive-dynamics.com</a>	WEST 2022
	L-Band Radio Frequency Interference Filtering					
	CesiumAstro, Inc.	N181-090	Chris Pappas	(206)605-4130	<a href="mailto:trey@cesiumastro.com">trey@cesiumastro.com</a>	WEST 2022
	Rapidly Integrated Tactical Communications Payload					
	Intelligent Automation, Inc.	N181-089	Bryan Stewart		<a href="mailto:bstewart@i-a-i.com">bstewart@i-a-i.com</a>	S-A-S 2022
	Multi-Domain Data Management (MDDM)					
	Reservoir Labs, Inc.	DOE19-02B	Jordi Ros-Giralt	(212)780-0527 x 110	<a href="mailto:Giralt@Reservoir.com">Giralt@Reservoir.com</a>	WEST 2022
	Analysis and Debugging Tools or Services for Network Operators					
	ONR					
	Carley Technologies, Inc.	N192-129	Rick Carley	(412)953-8818	<a href="mailto:rick.carley@carleytech.com">rick.carley@carleytech.com</a>	WEST 2022
	Early Detection of Information Campaigns by Adversarial State and Non-State Actors					
	Carley Technologies, Inc.	N19A-T024	Rick Carley	(412)953-8818	<a href="mailto:rick.carley@carleytech.com">rick.carley@carleytech.com</a>	NAVSEA FST Days
	Detection of Crowd Manipulation in Social Media					
	Clear Science, Inc.	N142-121	Bruce Ford	(904)536-7180	<a href="mailto:bruce@clearscienceinc.com">bruce@clearscienceinc.com</a>	S-A-S 2022
	Extended Range Forecasting and Advanced Climate Applications Decision Support System					
	Daniel H. Wagner, Associates, Incorporated	N102-154	Reynolds Monach	(757)727-7700	<a href="mailto:reynolds@va.wagner.com">reynolds@va.wagner.com</a>	NAVAIR FST Days
	Collaborative Anti-Submarine Warfare (ASW) Threat Assessment					
	Knexus Research Corp.	N181-079	Kalyan Moy Gupta	(703)321-6740	<a href="mailto:kalyan.gupta@knexusresearch.com">kalyan.gupta@knexusresearch.com</a>	S-A-S 2022
	Learning Performance Models and Tactical Knowledge for Continuous Mission Planning					
	Perceptronics Solutions, Inc.	N192-131	Frank Pietryka	(941)356-9041	<a href="mailto:frank.pietryka@pacific-defense.com">frank.pietryka@pacific-defense.com</a>	WEST 2022
	AI-Based Trend and Sentiment Analytics for Latent-Risk Discovery					

## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
C4I	Virtualitics	N193-A03-3	Matthew Gratias	(626)418-1982	<a href="mailto:matt.g@virtualitics.com">matt.g@virtualitics.com</a>	WEST 2022
	Secure Training Architecture for LVC Training in a Degraded and Denied Environment (D2E) - Advanced Technologies (including AR/VR) for Manpower, Personnel, Training, and Education					
Cyber	MCSC					
	Redwall Technologies LLC	N172-105	John Rosenstengel	(937)477-0424	<a href="mailto:john.rosenstengel@redwall.us">john.rosenstengel@redwall.us</a>	WEST 2022
	Data Integrity and Confidentiality Resilient Operating System Environment for Multi-Level Security					
	NAVAIR					
	D-Tech, LLC	N193-A01	Nick Duan	(703)574-5837	<a href="mailto:nduan@dttechspace.com">nduan@dttechspace.com</a>	NAVSEA FST Days
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	NAVSEA					
	Mission Secure, Inc.	N181-035	Dennis Freedman	(970)763-8716	<a href="mailto:DFreeman@MissionSecure.com">DFreeman@MissionSecure.com</a>	NAVSEA FST Days
	Network Traffic Analysis for Cybersecurity for Navy Industrial Control Systems					
	ONR					
Electronic Warfare (EW)	P&J Robinson Corporation	N18A-T018	Pete Robinson	(619)243-0961 ext. 106	<a href="mailto:probinson@pjrcorp.com">probinson@pjrcorp.com</a>	S-A-S 2022
	Protocol Feature Identification and Removal					
	Secmation, LLC	N191-037	Hal Aldridge	(919)887-2560	<a href="mailto:hal@secmation.com">hal@secmation.com</a>	S-A-S 2022
	Cyber Secure Backbone for Autonomous Vehicles					
	NAVAIR					
	Pendar Technologies, LLC	N181-016	Christian Pfluegl	(857)413-9339	<a href="mailto:cpfluegl@pendar.com">cpfluegl@pendar.com</a>	NAVAIR FST Days
	Two-Dimensional Surface Emitting Mid-Wave Infrared (MWIR) Quantum Cascade Laser Arrays for High-Power Applications					
	Tau Technologies LLC	N172-118	Gary Freeland	(505)681-7195	<a href="mailto:gary.freeland@tautechnologies.com">gary.freeland@tautechnologies.com</a>	NAVAIR FST Days
	Laser Target and Analysis Board Development					
	NAVSEA					
E&PT	Great Lakes Sound & Vibration, Inc.	N191-023	Sam Hanson	(906)482-7535	<a href="mailto:SamH@glsv.com">SamH@glsv.com</a>	S-A-S 2022
	Efficient 3-inch Acoustic Device Countermeasure (ADC) Depth Control System					
	NAVWAR					
	Intelligent Fusion Technology, Inc.	N182-138	Genshe Chen	(240)481-5397	<a href="mailto:gchen@intfusiontech.com">gchen@intfusiontech.com</a>	WEST 2022
E&PT	Radio Frequency-Activity Modeling and Pattern Recognition (RF-AMPR)					
	NAVAIR					
	Physical Sciences Inc.	N18A-T008	Christopher Lang	(978)835-1388	<a href="mailto:lang@psicorp.com">lang@psicorp.com</a>	NAVAIR FST Days
	Additive Manufacturing for Naval Aviation Battery Applications					



## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Energy & Power Technologies	NAVSEA					
	Continuous Solutions LLC	N19A-T007	Nyah Zarate	(971)280-7008	<a href="mailto:nyahzarate@continuousolutions.com">nyahzarate@continuousolutions.com</a>	WEST 2022
	Power-Dense Electrical Rotating Machines for Propulsion and Power Generation					
	Luna Innovations Incorporated	N161-047	Matthew Davis	(540)558-1696	<a href="mailto:davism@lunainc.com">davism@lunainc.com</a>	WEST 2022
	Lithium Battery Early Warning Fault Indication System					
	Mantel Technologies	N19A-T013	Michael Cushman	(508)410-9230	<a href="mailto:mc@manteltechnologies.com">mc@manteltechnologies.com</a>	NAVSEA FST Days
	Advanced Power Density Improvements to Electrical Generation Systems					
	Omnitek Partners, LLC	N151-060	Thomas Spinelli	(516)241-4697	<a href="mailto:tspinelli@omnitekpartners.com">tspinelli@omnitekpartners.com</a>	NAVSEA FST Days
	Power Technologies for Navy Conventional Ammunition Fuzes					
	ONR					
* ERS	Advanced Cooling Technologies, Inc.	N191-044	Chien-Hua Chen	(717)295-6116	<a href="mailto:chien-hua.chen@1-act.com">chien-hua.chen@1-act.com</a>	NAVSEA FST Days
	Undersea Energy Harvesting from Benthic Gas Seeps and Hydrates					
Ground and Sea Platforms	NAVSUP					
	Premier Solutions Hi, LLC	N182-122	Steve Brennan	(808)341-4702	<a href="mailto:steveb@premiersolutionshi.com">steveb@premiersolutionshi.com</a>	S-A-S 2022
	Fleet Material Locator Information System (FMLIS)					
	NAVAIR					
	Technical Data Analysis, Inc.	N08-006	Chance McColl	(770)516-7750	<a href="mailto:cmccoll@tda-i.com">cmccoll@tda-i.com</a>	NAVAIR FST Days
	Rotary Wing Dynamic Component Structural Life Tracking					
	NAVSEA					
	Atmospheric Plasma Solutions	N151-022	Glenn Astolfi	(919)341-8325	<a href="mailto:admin@aplasmasolution.com">admin@aplasmasolution.com</a>	NAVSEA FST Days
	Method for Removal of Airfield Paint Markings and Aircraft Tire Rubber Build-up from Installed AM2 Mat Surfaces					
	Boston Engineering Corporation	N141-042	David Shane	(415)686-1191	<a href="mailto:dshane@boston-engineering.com">dshane@boston-engineering.com</a>	NAVSEA FST Days
	Autonomous or Remotely-operated Maintenance of Ship's Tanks					
	Boston Engineering Corporation	N191-024	David Shane	(415)686-1191	<a href="mailto:dshane@boston-engineering.com">dshane@boston-engineering.com</a>	WEST 2022
	Autonomous or Remotely-operated Maintenance of Ship's Tanks					
	Cornerstone Research Group, Inc.	N18A-T012	Mitchell Bauer	(937)320-1877 x1178	<a href="mailto:bauermd@crgroup.com">bauermd@crgroup.com</a>	NAVSEA FST Days
	New Integrated Total Design of Unmanned Underwater Vehicles (UUVs) Propulsion System Architecture for Higher Efficiency and Low Noise					
	Intelligent Automation, Inc.	N18A-T011	Banibrata Poddar		<a href="mailto:bpoddar@i-a-i.com">bpoddar@i-a-i.com</a>	NAVSEA FST Days
	Non-Destructive Evaluation (NDE) of Missile Launcher Ablatives					

\* Engineered Resilient Systems (ERS)

## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Ground and Sea Platforms	Materials Sciences LLC	N192-115	Michael Orlet	(215)542-8400	<a href="mailto:orlet@materials-sciences.com">orlet@materials-sciences.com</a>	S-A-S 2022
	Durable Foreign Object Debris (FOD) Screens for Air Cushion Vehicles					
	Physical Sciences Inc.	MDA12-T001	Elizabeth Schundler	(978)738-8283	<a href="mailto:eschundler@psicorp.com">eschundler@psicorp.com</a>	NAVSEA FST Days
	Combined RF/IR Data Correlation					
	Progeny Systems Corporation	N171-071	Sante Simms	(216)399.0832	<a href="mailto:sante.simms@progeny.net">sante.simms@progeny.net</a>	S-A-S 2022
Human Systems	Plug-and-play Analytical Framework for Distributed Structured and Unstructured Data Sets for Condition Based Maintenance Plus (CBM+)					
	NAVAIR					
	Avatar Partners, Inc.	N193-D01	Scott Toppel	(757)268-8677	<a href="mailto:stoppel@avatarpartners.com">stoppel@avatarpartners.com</a>	NAVSEA FST Days
	On Demand Training Solutions for Maintenance Technicians					
	NAVSEA					
	D'Angelo Technologies, LLC	N18A-T014	Maurissa D'Angelo		<a href="mailto:maurissa@dangelotechnologies.com">maurissa@dangelotechnologies.com</a>	S-A-S 2022
	Drift Step Recovery Diode (DSRD) for Wideband (WB) and Ultra-Wideband (UWB) Pulse Generation					
	NAVWAR					
	Learntowin, Inc.	AF192-D001	Van East	(615)972-7190	<a href="mailto:van@learntowin.us">van@learntowin.us</a>	WEST 2022
	Direct to Phase II Open Topic: Open Call for Innovative Defense-Related Dual-Purpose Technologies/Solutions with a Clear Air Force Stakeholder Need					
	ONR					
	Coherent Technical Services, Inc.	N193-A03-2	Jeff Powers	(205)420-1367	<a href="mailto:jeff.powers@gocsi.com">jeff.powers@gocsi.com</a>	NAVAIR FST Days
	Rapid and Actionable After Action Reviews (AAR) Aechnologies and Methodologies - Advanced Technologies (including AR/VR) for Manpower, Personnel, Training, and Education					
	Hearing Ergonomics Acoustics Resources (HEAR) LLC	N181-084	Kichol Lee	(540)922-2941	<a href="mailto:kichol.lee@gmail.com">kichol.lee@gmail.com</a>	NAVSEA FST Days
	Auditory Situation Awareness Training Tool					
	Intelligent Automation, Inc.	N193-A03-2	Lisa Holt		<a href="mailto:lholt@i-a-i.com">lholt@i-a-i.com</a>	S-A-S 2022
	Rapid and Actionable After Action Reviews (AAR) Technologies and Methodologies - Advanced Technologies (including AR/VR) for Manpower, Personnel, Training, and Education					
	Li Creative Technologies, Inc. (LCT)	N182-133	Qi (Peter) Li	(973)822-0048	<a href="mailto:li@licreativetech.com">li@licreativetech.com</a>	S-A-S 2022
	Advanced Battlefield Communications System in Operations and Training					
	Noise Control Engineering LLC	N172-134	Jeffrey Komrower	(978)584-3026	<a href="mailto:jeffk@noise-control.com">jeffk@noise-control.com</a>	NAVSEA FST Days
	Abrasive Blasting Nozzle Noise Reduction					

## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Materials & Manufacturing Processes	MCSC					
	Pacific Engineering, Inc.	N162-079	Natalie Combs	(703)627-0254	<a href="mailto:natalie.combs@pacificengineeringinc.com">natalie.combs@pacificengineeringinc.com</a>	NAVSEA FST Days
	Fuel Efficiency Improvements for Amphibious Vehicles					
	SciGenesis, LLC	N181-004	Kelli Booth	(410)754-4297 ext. 705	<a href="mailto:kelli.booth@scigenesis.com">kelli.booth@scigenesis.com</a>	S-A-S 2022
	Application of a Low-Cost, Flame-Resistant Treatment to the Marine Corps Combat Utility Uniform that Provides Durable, Flame-Resistant Properties					
	NAVAIR					
	Creare LLC	N182-103	Michael Swanwick	(603)640-2534	<a href="mailto:mxs@creare.com">mxs@creare.com</a>	NAVAIR FST Days
	Carbon Nanotubes as Transparent Heater Film					
	Metis Design Corporation	N19A-T003	Dr. Seth Kessler	(617)661-5616	<a href="mailto:skessler@metisdesign.com">skessler@metisdesign.com</a>	S-A-S 2022
	Innovations in Designing Damage Tolerant Rotorcraft Components by Interface Tailoring					
	MRL Materials Resources LLC	N162-091	Maria Brausch	(937)531-6657	<a href="mailto:maria.brausch@icmrl.net">maria.brausch@icmrl.net</a>	NAVAIR FST Days
	Design Tool for Topological Optimization of Air-Platform Structural Components made by Additive Manufacturing					
	Product Innovation and Engineering, LLC	N18A-T005	Tim Comerford		<a href="mailto:timc@fidmail.com">timc@fidmail.com</a>	S-A-S 2022
	Innovative Processing Techniques for Additive Manufacture of 7000 Series Aluminum Alloy Components					
	TrueNano, Inc.	N18A-T004	David Bobela	(720)982-8807	<a href="mailto:davidb@truenano.com">davidb@truenano.com</a>	NAVAIR FST Days
	Next-Generation, Power-Electronics Materials for Naval Aviation Applications					
	HighRI Optics, Inc.	N171-045	Keiko Munechika	(360)402-4112	<a href="mailto:km@highrioptics.com">km@highrioptics.com</a>	S-A-S 2022
	Random Anti-Reflective Hydrophobic Textures on Semi-Hemispheric Domes					
	NAVSEA					
	Hy-Tek Manufacturing Co. Inc.	N192-106	Chris Bastian		<a href="mailto:Cbastian@hytekmfg.com">Cbastian@hytekmfg.com</a>	NAVAIR FST Days
	Innovative Helicopter Hangar Door Seals					
	Intelligent Automation, Inc.	N18A-T013	George Zhao		<a href="mailto:xzhao@i-a-i.com">xzhao@i-a-i.com</a>	NAVSEA FST Days
	Effects of Defects within Metal Additive Manufacturing Systems					
	Mira Labs	AF191-005	Paul Sells	(757)287-9802	<a href="mailto:paul.sells@miralabs.io">paul.sells@miralabs.io</a>	S-A-S 2022
	Open Call for Innovative Defense-Related Dual-Purpose Technologies/Solutions with a Clear Air Force Stakeholder Need					
	Pacific Engineering, Inc.	N192-108	Natalie Combs	(703)627-0254	<a href="mailto:natalie.combs@pacificengineeringinc.com">natalie.combs@pacificengineeringinc.com</a>	S-A-S 2022
	Structurally Integrated Enclosure for AEGIS Combat System Computer Hardware					



## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Materials & Manufacturing Processes	ONR					
	(ES3) Engineering & Software System Solution, Inc.	N201-X02	Fred Laguines	(478)298-8403	<a href="mailto:fred.laguines@es3inc.com">fred.laguines@es3inc.com</a>	S-A-S 2022
	ADAPT - Naval Depot Modernization and Sustainment					
	Applied Optimization, Inc.	N181-085	Anil Chaudhary	(937)431-5100	<a href="mailto:anil@appliedo.com">anil@appliedo.com</a>	NAVAIR FST Days
	Feed-Forward Controls for Laser Powder Bed Fusion Based Metal Additive Manufacturing					
	CFD Research Corporation	N19A-T020	Debasis Sengupta		<a href="mailto:debasis.sengupta@cf-research.com">debasis.sengupta@cf-research.com</a>	NAVAIR FST Days
	Data Analytics and Machine Learning to Accelerate Materials Design and Processing Development					
Modeling and Simulation Technology	Triton Systems, Inc.	N18A-T024	Arthur Gavrin	(978)856-4141	<a href="mailto:agavrin@tritonsystems.com">agavrin@tritonsystems.com</a>	S-A-S 2022
	Hybrid Ceramic Matrix Composite/Polymer Matrix Composite (CMC-PMC) Skin Materials					
	NAVAIR					
	Tagup, Inc.	N193-A01	Jon Garrity	(203)801-8408	<a href="mailto:Jon@tagup.io">Jon@tagup.io</a>	WEST 2022
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	NAVSEA					
	Marine Acoustics, Inc.	N192-117	Antone (Tony) Eliassen	(703)465-8404	<a href="mailto:antone.eliasen@marineacoustics.com">antone.eliasen@marineacoustics.com</a>	S-A-S 2022
	Undersea Acoustic Risk Analysis Decision Aid for Theater Anti-Submarine Warfare (TASW) Mission Planning					
	OptTek Systems, Inc.	N181-031	Shane Hall	(303)447-3255	<a href="mailto:hall@opttek.com">hall@opttek.com</a>	NAVSEA FST Days
	AEGIS Combat System Optimization through Advanced Modeling of Software-Only Changes					
Sensors	NAVWAR					
	Scalable Network Technologies Inc.	N08-225	Jeremy Smith	(202)469-0653	<a href="mailto:jsmith@scalable-networks.com">jsmith@scalable-networks.com</a>	WEST 2022
	Wideband Networking Waveform (WNW) Enhancement					
	ONR					
	Xiphos Partners, LLC	N193-A03-3	Kevin Fernandez	(540)419-1073	<a href="mailto:kfernandez@xiphos-partners.com">kfernandez@xiphos-partners.com</a>	WEST 2022
	Secure Training Architecture for LVC Training in a Degraded and Denied Environment (D2E) - Advanced Technologies (including AR/VR) for Manpower, Personnel, Training, and Education					
	NAVAIR					
Sensors	Hood Technology Corporation	SB052-028	Andreas Flotow	(541)387-2288	<a href="mailto:Andreas@hoodtech.com">Andreas@hoodtech.com</a>	WEST 2022
	Autonomous Operation of Hovering/Staring Fixed Wing Unmanned Aerial Vehicle					
	Innoveering, LLC	N162-105	Dr. George Papadopoulos	(631) 974-7218	<a href="mailto:george.papadopoulos@innoveering.net">george.papadopoulos@innoveering.net</a>	NAVAIR FST Days
Real Time Gas Turbine Engine Particulate Ingestion Sensor for Particle Size and Composition						

## First Look...Continued

	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Sensors	Luna Innovations Incorporated	N19B-T032	John Ohanian	(540)443-3872	<a href="mailto:ohanianj@lunainc.com">ohanianj@lunainc.com</a>	NAVAIR FST Days
	Strength Loss Indicator for Webbing					
	SA Photonics, Inc.	N181-022	David Cushman	(408)642-0305	<a href="mailto:d.cushman@saphotonics.com">d.cushman@saphotonics.com</a>	WEST 2022
	Laser Periscope Detection					
	Technology Service Corporation	AF141-253	Brandon Wolfson	(703)251-6450	<a href="mailto:brandon.wolfson@tsc.com">brandon.wolfson@tsc.com</a>	NAVAIR FST Days
	Disruptive Military Navigation Architectures					
	NAVSEA					
	Luna Innovations Incorporated	N18A-T010	Matthew Webster	(737)220-2514	<a href="mailto:websterm@lunainc.com">websterm@lunainc.com</a>	NAVSEA FST Days
	In Situ Marine-Grade Aluminum Alloy Characterization for Sensitization Resistance and Stress Corrosion Cracking Prediction					
	Physical Sciences Inc.	AF08-T008	Mark Merritt	(978)314-3197	<a href="mailto:merritt@psicorp.com">merritt@psicorp.com</a>	S-A-S 2022
	Integrated Sensing, Control and Modeling for Agile Micro Air Vehicle Platforms					
	Skyward, Ltd.	N193-A01	Jason R. Woodall	(937)252-2710	<a href="mailto:JWoodall@SkywardLtd.com">JWoodall@SkywardLtd.com</a>	S-A-S 2022
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	The Probitas Project, Inc.	N191-029	Craig Yantiss	(571)201-2966	<a href="mailto:cyantiss@probitas-project.com">cyantiss@probitas-project.com</a>	NAVSEA FST Days
	Adaptive Radar Algorithms for Next Generation Surface Search Radar					
Space	ONR					
	MSI Transducers Corp.	N182-136	Timothy Mudarri		<a href="mailto:tmudarri@msitransducers.com">tmudarri@msitransducers.com</a>	NAVAIR FST Days
	Compact Low Noise Acoustic Sensors for Sonobuoys					
	SA Photonics, Inc.	N18A-T021	David Cushman	(408)642-0305	<a href="mailto:d.cushman@saphotonics.com">d.cushman@saphotonics.com</a>	WEST 2022
	Active Imaging through Fog					
	SSP					
	Innoveering, LLC	AF171-020	Dr. Dean Modroukas	(631)793-8436		NAVAIR FST Days
	Instrumentation for Carbon-carbon Structures in Extreme Environments					
	NAVWAR					
	SA Photonics, Inc.	N122-146	Dave Pechner	(408)376-0989	<a href="mailto:d.pechner@saphotonics.com">d.pechner@saphotonics.com</a>	WEST 2022
	Novel CubeSat Payloads for Naval Space Missions					
	MCSC					
	Triton Systems, Inc.	N153-127	Brady Krass	(978)856-1902	<a href="mailto:bkrass@tritonsystems.com">bkrass@tritonsystems.com</a>	S-A-S 2022
	Low Power Water Purification System					

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	Company / Topic Title	Topic #	POC	POC Phone	POC Email	Navy FST
Sustainment	NAVAIR					
	Hy-Tek Manufacturing Co. Inc.	N181-021	Chris Bastian		<a href="mailto:Cbastian@hytekmfg.com">Cbastian@hytekmfg.com</a>	WEST 2022
	Innovative Ultra Violet and Ozone Resistant Material for Hydraulic Clamp Cushions					
	Intelligent Fusion Technology, Inc.	N193-A01	Genshe Chen	(240)481-5397	<a href="mailto:gchen@infusiontech.com">gchen@infusiontech.com</a>	NAVAIR FST Days
	Machine Learning (ML) and Artificial Intelligence (AI) to Develop Capabilities and Impact Mission Success					
	Metis Design Corporation	N12A-T007	Dr. Seth Kessler	(617)661-5616	<a href="mailto:skessler@metisdesign.com">skessler@metisdesign.com</a>	NAVAIR FST Days
	Early Damage State Detection in Gearbox Components Via Acoustic Emission					
	Mosaic ATM, Inc.	N191-007	Jim Gardner	(757)618-7075	<a href="mailto:jgardner@mosaicatm.com">jgardner@mosaicatm.com</a>	NAVAIR FST Days
	Data Analytics Tools for the Automated Logistics Environment (ALE)					
	Sharp Vision Software LLC	DHP163-002	Win Liu	(443)527-7889	<a href="mailto:win.liu@sharpvisionsoftware.com">win.liu@sharpvisionsoftware.com</a>	NAVAIR FST Days
Weapons Technologies	Scene Registration Augmented Reality as an Educational Tool to Identify Underlying Anatomy during Medical Simulation Training					
	ONR					
	Luna Innovations Incorporated	N204-A01	Dr. Andrew Boulanger	(540)557-5889	<a href="mailto:boulanger@lunainc.com">boulanger@lunainc.com</a>	NAVAIR FST Days
Weapons Technologies	Naval Depot Modernization and Sustainment					
	ONR					
Weapons Technologies	Photonwares Corporation	N181-080	Jim Zhao	(781)465-2600	<a href="mailto:jzhao@photonwares.com">jzhao@photonwares.com</a>	N/A
	High Energy Fiber Laser Components					

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