

NAVY SBIR TRANSITION PROGRAM

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CoAspire leverages SBIR contract to build affordable precision-guided munitions

By Amie Alscheff

Through its first-ever SBIR project, CoAspire LLC has developed two separate innovative precision air-launched guided munitions that will benefit the Department of the Navy, the U.S. Air Force and international allies. The first, CoAspire's Guided Training Round (GTR), is a dual-mode GPS and semi-active laser-guided training round that can be used for fighter aircraft air-to-ground weapons delivery training practice. It recently completed a NAVAIR SBIR Phase II contract. The second, the Rapidly Adaptable Affordable Cruise Missile (RAACM), is an SBIR Phase III transition contract with the U.S. Air Force as an air-launched integrated test vehicle that is also designed to be an affordable mass cruise missile.

"GTR is truly a joint-funded design and development program," says CoAspire's CEO and founder Doug Denny. "Because it's an air launched munition, it is applicable for both services and allied air forces and can support Net Enabled Weapon training."

The GTR program began in 2020 with a Phase I SBIR award from the Air Force. Following successful completion of Phase I, the Navy awarded CoAspire Phase II funding to continue the engineering development of the GTR. In 2023, the Air Force awarded CoAspire a Phase III sole-source contract to transition some of the technology developed for the GTR through the SBIR program to aid in the design of the RAACM and a test version called the Subcomponent Test Vehicle, or SCTV. While the RAACM contract was issued by the Air Force in April 2023, the Navy has contributed additional funding to ensure compatibility with Naval strike fighter aircraft.



CoAspire is designing RAACM to meet the Navy's carrier suitability standards as well as Air Force standards, ensuring that the missile can be efficiently integrated onto the Air Force F-15E and the Navy F/A-18E/F, the Joint Strike Fighter and any aircraft capable of employing MK-82 sized (500lb class) weapons. The goal with RAACM is to move from design to flight testing rapidly, according to Denny.

The SBIR-developed technology that forms the basis for the GTR and RAACM involves integrating CoAspire's components, designed in a digital engineering environment and incorporating thousands of lines of software code, with affordable commercial-off-the-shelf (COTS) parts. CoAspire's use of digital engineering technologies, COTS and previously developed technology allowed for the rapid development of GTR and is aiding in the final design work for RAACM.

"We're taking a faster, more affordable approach to accelerate getting new missiles to the warfighters," says Denny. "We're taking a fly,

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fix, and fail forward mentality to missile design and testing, meaning ‘go fast and if you fail, fix it and fly again quickly.’”

CoAspire’s GTR is based on the Navy’s BDU-59B/B Laser Guided Training Round (LGTR), which is already in use by U.S. armed forces and international customers for training on their fighter, strike fighter and attack aircraft. Currently, pilots are unable to train as frequently as desired with Joint Direct Attack Munitions (JDAM), Laser JDAMs (LJDAM), Small Diameter Bombs (SDB) and Net Enabled Weapons (NEW) due to the high cost of these munitions and weapon training range restrictions that limit their use. Most air launched weapons fly too far to be able to be dropped on most training ranges, and they aren’t always the most affordable options. With the addition of dual-mode precision guidance, and with the manufacturing price expected to be at a cost-efficient rate, CoAspire’s GTR will make more ranges available for training and allow pilots to train more frequently, increasing Navy readiness.

For RAACM, CoAspire takes some of the same internal componentry designed for GTR and packages it into a munition armed with a warhead rather than the smoke charge used on the training rounds. This munition will also be larger, enabling an extended range. The goal is to give the United States and its allies an affordable mass weapon, according to Denny.

CoAspire continues working to advance GTR and RAACM. During GTR’s Phase II SBIR work, the NAVAIR team received a technical data package delivered in a customer-friendly digital environment to be evaluated for future flight

test and production.

Meanwhile, the National Defense Authorization Act for Fiscal Year 2024 included \$5 million in Air Force funding for RAACM development. CoAspire’s plan, as the prime, is to use a major defense prime as its subcontractor along with additional subcontractors to fly a 3D printed RAACM missile in the very near future.

“There’s a lot of stuff we’re doing to push the envelope to build missiles affordably, at

scale, using digital engineering tools and 3D printing,” says Denny. CoAspire is working with a prime contractor on a new hypersonic missile and continuing to grow. CoAspire was named in 2024 by Inc. Magazine as the 36th [fastest growing company in the Mid-Atlantic Region](#).



CoAspire is a participant in the Navy SBIR Transition Program (Navy STP). “As a small business, and now defense prime contractor designing a cruise missile, we have challenges to tackle every day and to have an organization that’s there to help us with no transactional return is phenomenal,” says Denny.

Based in Fairfax, Virginia, CoAspire was founded in 2013. The company leverages its technological developments and expertise in precision guided munitions to develop next generation capabilities to deter and defeat threats to our nation and its allies.

For more information about CoAspire’s services and missile systems, visit the company’s website at <https://www.coaspire.com/>.

