



Photos from ANTX-Coastal Trident 2023

In the summer of 2024, the Naval Surface Warfare Center's Port Hueneme Division will lead execution of its annual Advanced Naval Technology Exercise. "ANTX-Coastal Trident 2024" will be conducted to support Naval Innovative Science and Engineering research and accelerate identification, assessment, and implementation of leading-edge technology proposed to address gaps for the U.S. Navy and its interagency partners in port and maritime security.

WHAT IS ANTX?

ANTX is a resource developed for low barrier-to-entry technical demonstration and field experimentation by the Naval Research and Development Establishment, conducted to assist the naval and joint force maintain a competitive technical advantage.

The learning environments established during ANTX are intended to provide technologists with an understanding of the operational challenges faced by the warfighter and, complementing that, the warfighter with an understanding of developing and transitional technologies that might meet their needs. These events allow for collaboration among industry, academia, government research and development organizations, operational stakeholders, and provide a testbed environment in which end users are able to assess the utility of technical innovations before decisions are made on investment and acquisition priorities.

The result is an acceleration of information exchange and reduction in risk for larger technology exercises, material transitions, future research and development, a refined understanding of concepts of employment, concepts of operation that will develop as technology matures and achieves higher levels of operational integration, as well as barriers to implementation of technologies.

ANTX-COASTAL TRIDENT 2024

In 2024, ANTX-Coastal Trident will be conducted to facilitate concept demonstrations and field experiments in the following technology areas:

- Critical infrastructure security, threat mitigation, and incident response
- In-service engineering, maintenance, and sustainment of surface fleet and expeditionary combat systems
- Port and maritime domain awareness, data fusion, and decision support
- Augmented and virtual reality modeling, simulation, and digital engineering
- Unmanned systems applications, implementation, and countermeasures

NSWC Port Hueneme's ANTX is encompassed within the architecture of an operational research program known as "Coastal Trident," which is conducted annually to examine capabilities of port and maritime security organizations to counter asymmetric threats to maritime forces, marine transportation and commerce, and critical port and maritime infrastructure. ANTX-Coastal Trident is the result of eighteen years of successful collaboration between the Navy, the Port of Hueneme, interagency partners in port and maritime security, and technology SMEs in government, academia, and the private sector.



ANTX-CT24 PLANNING and EXECUTION MILESTONES

Concept Development Meeting
November 29, 2023

Project Proposals Due
January 17, 2024

Initial Planning Meeting
January 24, 2024

Mid-term Planning Meeting
March 20, 2024

Final Planning Meeting
May 22, 2024

Project Execution
June through September, 2024

ANTX Technology Open House
September 24-25, 2024



Coastal Trident 2019



Coastal Trident 2018



Coastal Trident 2013



Coastal Trident 2019



Coastal Trident 2022

ALIGNMENT WITH COASTAL TRIDENT

Coastal Trident was established in 2007 to meet the security training and exercise needs of the Port of Hueneme, as well as familiarize law enforcement and emergency response partners with the unique challenges associated with port and maritime operations.

Coastal Trident provides opportunities for operational stakeholders at the federal, state, and local levels of government to train and exercise in relevant and timely scenarios. In 2024, these organizations have communicated the following objectives:

- Exercise of maritime interdiction capabilities
- Exercise of lithium battery conflagrations in a shipboard scenario
- Exercise of port security and critical infrastructure protection capabilities
- Exercise of underwater search, recovery, and threat detection capabilities

Alignment of ANTX with Coastal Trident provides access to scenario-based, operationally relevant test environments with representative end users not typically accessible to experimenters. Engagement in these venues maximizes feedback on concepts of employment, mission effectiveness, and operational suitability and provides access to interagency partners that expands awareness of technical solutions.

ALIGNMENT WITH FATHOMWERX

The NavalX Ventura Tech Bridge was established at the “FATHOMWERX” facility at the Port of Hueneme in 2018 in order to connect, reinforce, and sustain an ecosystem that supports innovation, collaboration, and accelerates adoption of technologies through the engagement of innovators across academia, industry, and government.

FATHOMWERX stakeholders provide unique access and a prototyping, demonstration, and experimentation venue to small businesses and low-technology readiness level technologies targeting operational gaps and limitations. These stakeholders include:

- Naval Surface Warfare Center-Port Hueneme Division
- Naval Air Warfare Center-Weapons Division
- Naval Facilities Engineering and Expeditionary Warfare Center
- Port of Hueneme
- Economic Development Collaborative-Ventura County
- Matter Labs

Alignment of ANTX with FATHOMWERX expands access to technology developers and innovators that might not be engaged with the Navy through traditional development pathways. Engagement in this venue maximizes understanding of the local technology ecosystem and leverages the efforts of the Tech Bridge to scan, source, and curate developing solutions to operational needs.

AREA OF OPERATIONS

ANTX-Coastal Trident leverages privileged access to land-based, waterside, and offshore facilities throughout Southern California to establish robust and relevant learning environments.

This area of operations spans more than 200 coastal miles and extends offshore, clear of congested shipping lanes and recreation areas.

These sites and the resources supporting them enable the planning team to design diverse, realistic, and challenging scenarios in which participants can increase proficiency on port and maritime scenarios, demonstrate and assess technical and operational capabilities, and priorities for improvement.



ADDITIONAL PROGRAM INFORMATION

How will ANTX-CT24 be conducted?

ANTX-CT24 will be conducted as a series of technical demonstration, field experimentation, and exercise activities, according to the unique objectives and operational, administrative, and support needs of each project.

ANTX-Coastal Trident is designed to include elements of “experiment” and “exploratory exercise” activities, where the planning team is tasked with establishing a scenario-based learning environment in which capabilities can be assessed qualitatively in the context of “what is possible?” and “will this work?” These activities are intended to stop short of detailed technical evaluations and operations-focused “how would we?” questions, which typically require relatively mature capabilities and higher levels of operational integration.

The program is conducted in modular components, which is intended to limit technical and operational risk, addressing the potential that delays or cancellations associated with one activity might impact successful execution of the program. It also serves to allow for participants with differing priorities, levels of proficiency, and technical maturity to concurrently leverage program resources and learning environments, assure information or operational security, or facilitate training and experimentation that allows capabilities to be pushed to failure without effect to other participants.

ANTX-CT24 activities will be conducted where venues and supporting resources match project needs and when technical readiness matches venue availability. For these reasons, there will not be specific locations and dates for execution identified until later in the planning process.

Why should I participate in ANTX-CT24?

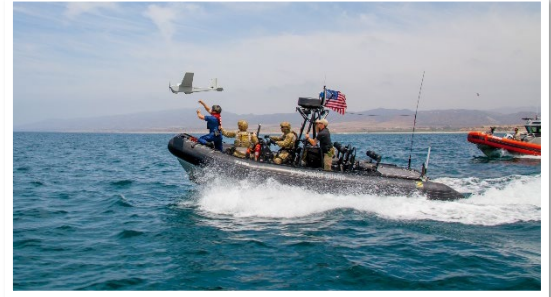
ANTX-CT24 assessments are intended to provide actionable information to the Navy on promising technologies, as well as inform developers where their products have or have not held value in the context of the missions of the Navy and its interagency partners.

The diverse environments for technical demonstration and experimentation provided through ANTX offer distinct benefits for stakeholders and participants:

- **Fleet and Interagency Partners** – Obtain “hands-on” or “over-the-shoulder” exposure to developing technical solutions, a voice in the value and suitability of new technologies, and an opportunity to explore new tactics and operational concepts enabled by emerging technologies.
- **Warfare Centers and Government Labs** – Collaborate with industry and inform technical development, gain insight into warfighter and end user needs, and obtain early access to industry and academic research to facilitate technology transfer and transition.
- **Program Offices and Resource Sponsors** – Assess novel concepts and technical applications, allowing for a preliminary “test drive” of potential solutions to near-term needs and a venue to inform and prioritize technical investment.
- **Industry and Academia** – Gain unfiltered exposure and visibility with end users and program representatives. A low-risk, consequence-free learning environment allows for direct feedback, representing a unique opportunity to align development efforts with communicated needs.

How do I participate in ANTX-CT24?

- If you are interested in proposing a project for ANTX-CT24, please submit a completed “ANTX-CT24 Project Proposal” form to the Principal Investigator for consideration. Project proposals will be evaluated by their timeliness in submission, research value, alignment with operational and technical needs, and available resources.
- If you are interested in observing or supporting ANTX-CT24 project planning and execution, please contact the Principal Investigator to discuss your areas of interest.



Coastal Trident 2014

POINTS OF CONTACT

ANTX-Coastal Trident activities are planned and conducted by NSWC Port Hueneme's Office of Technology, in partnership with the Port of Hueneme and FATHOMWERX.



For additional information about the program, please contact the ANTX-CT24 Principal Investigator:

Brendan Applegate

NSWC PHD, Office of Technology
ANTX-Coastal Trident Principal Investigator
Email: brendan.j.applegate.civ@us.navy.mil
Phone: (619) 616-5667

For information about small business engagement, please contact the Office of Research and Technology Applications:

Alan Jaeger

NSWC PHD, ORTA Manager
Email: alan.w.jaeger.civ@us.navy.mil
Phone: (805) 205-0638

Mark Thompson

NAVFAC EXWC, ORTA Manager
Email: mark.b.thompson13.civ@us.navy.mil
Phone: (714) 514-3988

For information about FATHOMWERX capabilities and technical engagement, please contact our partners at Matter Labs:

Bryan Went

Matter Labs, Chief Executive Officer
Email: bryan@matter-labs.com
Phone: (415) 913-9294