NAWCAD At-a-Glance

NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION

MISSION

Naval Air Warfare Center Aircraft Division (NAWCAD):

- Is the principal research, development, test, evaluation and fleet support activity for manned and unmanned aircraft for the U.S. Navy and Marine Corps.
- Operates test ranges, test facilities, laboratories and aircraft necessary to support the fleet's acquisition requirements.
- Supports other Department of Defense (DoD) activities, federal agencies and international partners in alignment with U.S. national security objectives.

Our Mission Areas Include:

- Aircraft Launch and Recovery Systems
- Aviation Support Equipment
- Air Vehicle Propulsion Systems
- Aircraft Testing
- Aircraft Test and Evaluation Ranges
- Aircraft Modeling and Analysis
- Air Vehicles *(Manned and Unmanned)*
- Aircrew Equipment and Life Support
- Airborne Surveillance Systems
- Air Anti-Submarine Warfare Systems and Sensors
- Aircraft Electronic Warfare Test and Evaluation
- Air Platform Systems Integration
- Aircraft Active and Passive Signatures
- Ship and Shore Electronic Systems
- Training and Training Systems
- Aircraft Prototyping Facility (SCIF-level hangars)

COMPONENT COMMANDS

Naval Air Warfare Center Training Systems Division (NAWCTSD): Principal Navy center for research, development, test and evaluation, acquisition and product support of training systems.

- Integrates the science of learning with performance-based training and measurement of training effectiveness.
- Provides requirements analysis, design, development and full life cycle support for a wide spectrum of military warfare specialties, including naval aviation, surface, undersea and cross-warfare training systems.
- Provides inter-service coordination and training systems support for U.S. Army, Marine Corps and Air Force.

Naval Test Wing Atlantic, comprised of:

- Approximately 140 aircraft in more than 40 type/model/series
- Air Test and Evaluation Squadrons VX-20, HX-21, VX-23
- Unmanned Aerial Systems Test Directorate
- U.S. Naval Test Pilot School

CAPABILITIES

Atlantic Test Ranges: Fully-instrumented and integrated test ranges, including:

- 2,700 square miles of controlled airspace, including 1,700 square miles of restricted airspace
- Access to 50,000 square miles in the mid-Atlantic Warning Areas
- Radar and optical tracking systems
- Fixed and mobile assets for diverse testing and training scenarios
- Telemetry data center for real-time radio link reception, translation, processing and display of test data. Fixed, mobile and deployable tracking instrumentation diversity: radar, electro-optical and GPS
- Threat and Target Systems: Electronic warfare threat simulation and stimulation systems, fixed and mobile
- Target Diversity: land, sea and air, fixed and dynamic

Air Combat Environment Test & Evaluation Facility (ACETEF): Virtual battlespace for electronic warfare (EW). Links to weapons system platforms and other DoD facilities provide a mix of real and virtual contacts during testing or training scenarios. Facilities include:

- Manned flight simulator
- Large anechoic chamber
- Shielded hangar
- Computing center
- EW integration system test lab
- Warfare simulation lab and threat air-defense lab

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AERIAL VIEW OF PATUXENT RIVER, MD

CAPABILITIES ...continued

Electromagnetic environmental effects facilities: EW flight test capabilities including sensor stimulation and measurements. Ensures all aircraft avionics are compatible with other systems on board and in the intended operating environment.

Air vehicles/material labs: Adhesive bonding and technology lab, landing gear composites, organic coatings and surface interactions.

Air vehicle test and analysis: Materials analysis/non-destructive structural testing, failure analysis, engineering investigations, composite repair and coating evaluations.

Dynamic aircraft signature measurements: Characterize aircraft signatures in both the radar and infrared bands of the electromagnetic spectrum.

Hush house: Integrated airframe-engine testing to determine installed engine performance. Includes an enclosed test area with sound attenuation structure.

Propulsion systems evaluation facility: 55 test and support areas. Centralizes test data from facilities at Patuxent River, MD, Tullahoma, TN, and Lakehurst, NJ.

Avionics/mission and sensors: Tests mission systems and radio frequency sensors. Includes antenna testing laboratory, automated systems, ship/shore communication system. Designs, integrates and tests communication systems and ship's signal exploitation for Navy ship construction programs. Provides in-service engineering for CG 47 and DDG 51 class ships.

Aircrew systems: In addition to training systems noted above, includes crew station technology lab, ejection tower, thermo physiology lab and horizontal accelerator.

Catapult and arresting gear carrier suitability testing

Full range of acquisition support for air combat systems

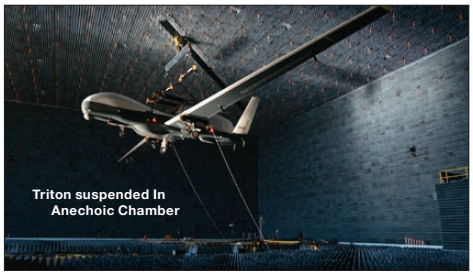
Rapid Prototyping, Aircraft Modification and Lead Systems Integration

Maritime support with vessels out of Patuxent River, MD, and Key West, FL

AERIAL VIEW OF LAKEHURST, NJ

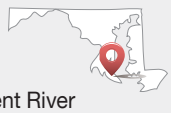

Manned Flight Simulator


First X-47B UCAS catapult launch makes naval aviation history


Triton suspended In Anechoic Chamber

SITES

Patuxent River, MD



- 13,800 acres, including Naval Air Station Patuxent River and nearby Webster Outlying Field
- 935 buildings, including 10 hangars, 8.76 million square feet of facilities
- Five runways (longest is 11,800 feet)

Lakehurst, NJ

- 7,430 acres of 42,000-acre Joint Base McGuire/Dix/Lakehurst complex
- 4,000 acre test area
- 3,000 square miles of controlled airspace
- 11,000-foot runway arrested-landing site

Orlando, FL

- NAWCTSD/ Naval Support Activity Orlando
- 40 acre facility located within the Central Florida Research Park

FOR MORE INFORMATION, PLEASE VISIT **WWW.NAVAIR.NAVY.MIL/NAWCAD**