



# NAVAIR Overview

*30 November 2016*

*PRESENTED TO:*  
**Radford University**

*PRESENTED BY:*  
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**NAVAIR**



# Mission

NAVAIR's mission is to provide full life-cycle support of naval aviation aircraft, weapons and systems operated by Sailors and Marines. This support includes research, design, development and systems engineering; acquisition; test and evaluation; training facilities and equipment; repair and modification; and in-service engineering and logistics support





# Vision

## ***Sailors and Marines Armed with Confidence...***

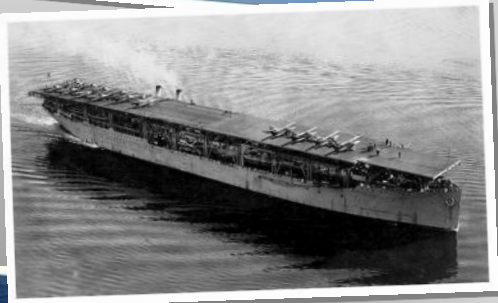
*Because we develop, deliver, and sustain aircraft, weapons, and systems – on time, on cost, with proven capability and reliability – so they succeed in every mission and return safely home.*





# History

- 1911 – First Navy aircraft purchased from the Glenn Curtiss company of Hammondsport, NY
  - General purpose biplane fitted with wheels or floats
- 1921 – Bureau of Aeronautics was created. Prior to that, the ownership of all aircraft was distributed across the Navy
- At the start of World War II, the Navy had 1,800 combat aircraft. By the end of the war, the Navy had 41,000 total aircraft
- 1959 – BUAER merged with Bureau of Ordnance (BUORD) to form Bureau of Naval Weapons (BUWEPS)
- **1966 – Naval Air Systems Command (NAVAIRSYSCOM) established**
- 1985 – NAVAIR now reports directly to Chief of Naval Operations (CNO)
- 1990's – NAVAIRSYSCOM moves to Patuxent River Naval Air Station







# Focus Areas

## Better support Today's Readiness.

Fix Existing Issues

Predictive vice Reactive

Tactical and Strategic

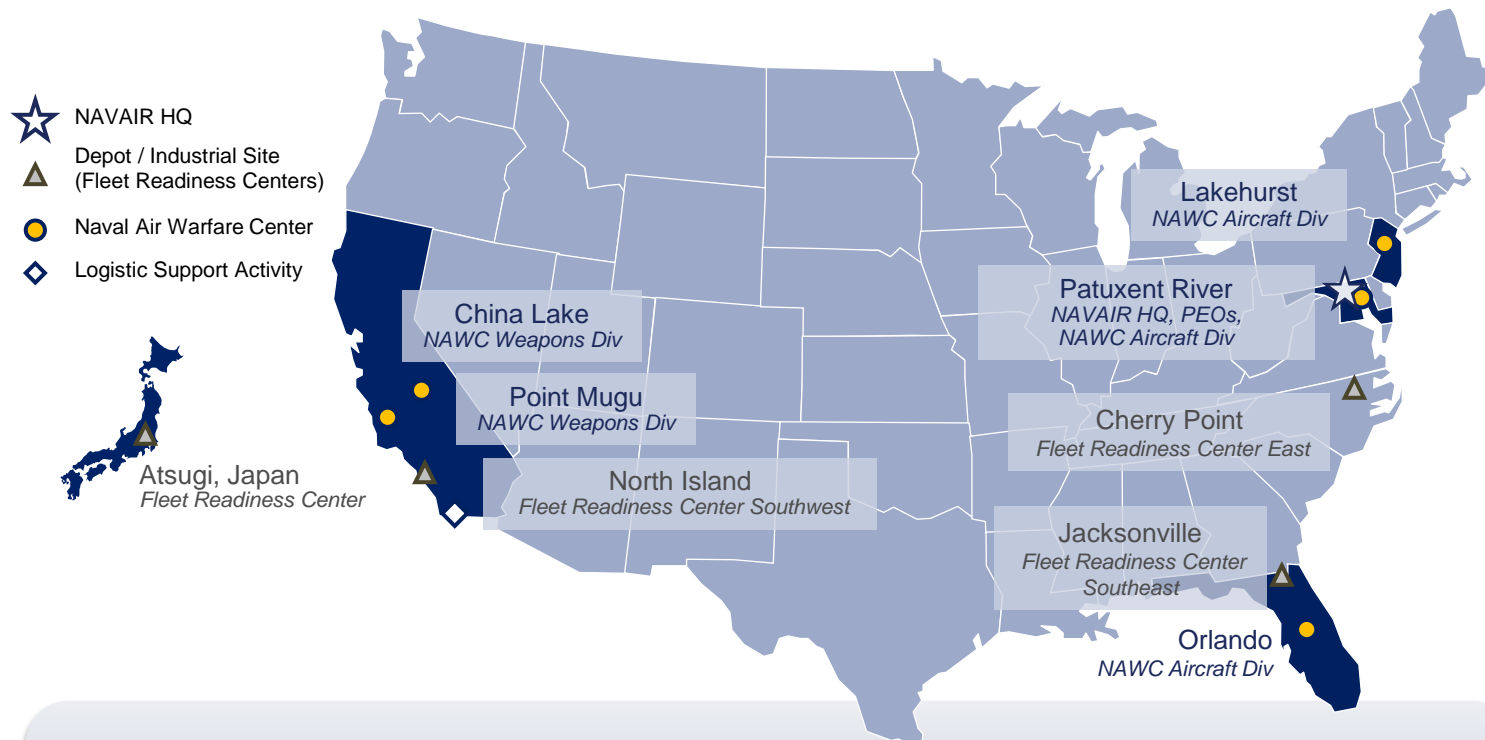
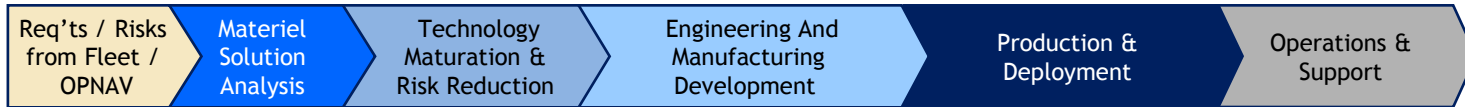


Increase Speed of new Capability to the Fleet.



# Locations

## Full Life-cycle Management



**26,221**  
Civilians

**1,657**  
Military

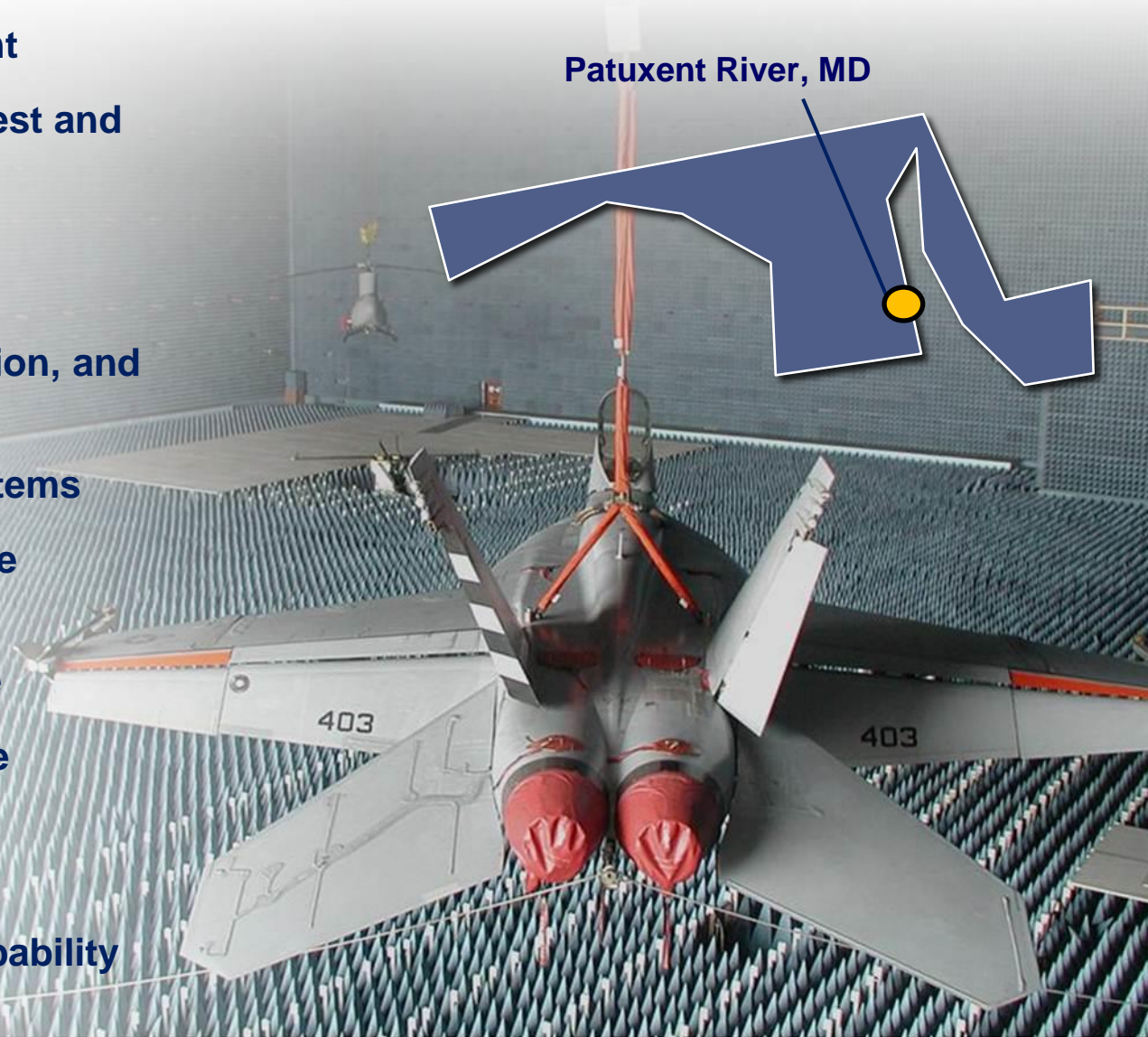
**9,050\***  
Contractors

\* The CSS number reflects that of FY14, other numbers reflect FY15



# Naval Air Warfare Center Aircraft Division (NAWCAD)

- Research and Development
- Ranges and Facilities to Test and Evaluate Navy Systems
- In-service Support/System Phase-out
- Aircraft Modeling, Simulation, and Analysis
- Airborne Surveillance Systems
- Air Anti-Submarine Warfare Systems and Sensors
- Aircraft Electronic Warfare
- Aircraft Active and Passive Signatures
- Warfare Analysis
- Integrated Warfighting Capability







# Naval Air Warfare Center Weapons Division (NAWCWD)

- Research and Development
- Ranges and Facilities to Test and Evaluate Navy Systems
- In-service Support/System Phase-out
- Missiles/Freefall Weapons



China Lake, CA

Point Mugu, CA



- Weapon System Integration
- Electronic Warfare Systems
- Land Range/Sea Range
- Non-Lethal Weapons





# NAWCAD Lakehurst and Orlando

Lakehurst, NJ



- Research and Development
- Facilities to Test and Evaluate Navy Launch and Recovery Systems
- In-service Support/System Phase-out
- Ship Interface and Support Systems

Orlando, FL



- Research and Development
- Human Performance/Simulator Systems
- Training and Training Systems
- Facilities to Test and Evaluate Navy Training/Simulation Systems



# NAVAIR Products

- Fixed Wing
- Rotorcraft
- Unmanned Air Systems
- Aviation Systems
- Weapons





# Fixed Wing Aircraft





# F-35 Lightning II





# E-2D Advanced Hawkeye





# P-8A Poseidon

- The P-8A Poseidon is a long-range anti-submarine warfare, anti-surface warfare, intelligence, surveillance and reconnaissance aircraft, capable of broad-area, maritime and littoral operations







# Rotorcraft



# CH-53K King Stallion



**The most powerful helicopter in the Department of Defense, the CH-53K is a new-build helicopter that will expand the fleet's ability to move more material, more rapidly. Designed to lift nearly 14 tons at a mission radius of 110 nautical miles.**



# MV-22 Osprey



- The MV-22B Osprey is a tiltrotor V/STOL aircraft that can operate as a helicopter or a turboprop aircraft and offers twice the speed, six times the range, and three times the payload of the CH-46E helicopter.





# MH-60S

**The MH-60S Seahawk missions are:**

- **Anti-Surface Warfare**
- **Combat support**
- **Humanitarian disaster relief**
- **Combat Search and Rescue**
- **Aero medical evacuation**
- **SPECWAR**
- **Mine Countermeasures.**





# Unmanned Air Systems



# MQ-4C Triton



**The MQ-4C Triton will provide combat information to operational and tactical users and will a more continuous source of information to maintain the Common Operational and Tactical Picture (COTP) of the maritime battle space and intelligence activities.**





# MQ-8C Fire Scout

**The MQ-8 Fire Scout system is designed to provide reconnaissance, situational awareness, and precision targeting support for ground, air and sea forces.**





# Aviation Systems



# Electromagnetic Aircraft Launch System (EMALS)



**EMALS is a carrier-based launch system employing electromagnetic energy, providing the following benefits:**

- Increased reliability and efficiency
- More accurate end-speed control and smoother acceleration
- Ability to launch a broader range of naval aircraft with less stress on the ship and aircraft





# Advanced Arresting Gear (AAG)



**AAG is a modular, integrated aircraft recovery system that provides the following benefits:**

- Higher reliability and safety margins
- Increased sortie rates, lower energy consumption and decreased gross ship weight
- Reduced aircraft fatigue and life-cycle cost



# JPALS (Joint Precision Approach and Landing System)



- **Transformational GPS-based precision approach and landing capability**
  - Adverse weather and terrain operations
  - Forward Naval presence, crisis response
  - Improved situational awareness, enhanced safety
  - Covert operations
  - Jam-resistant GPS technology

*JPALS provides revolutionary capability — Enabling all naval warfare areas*

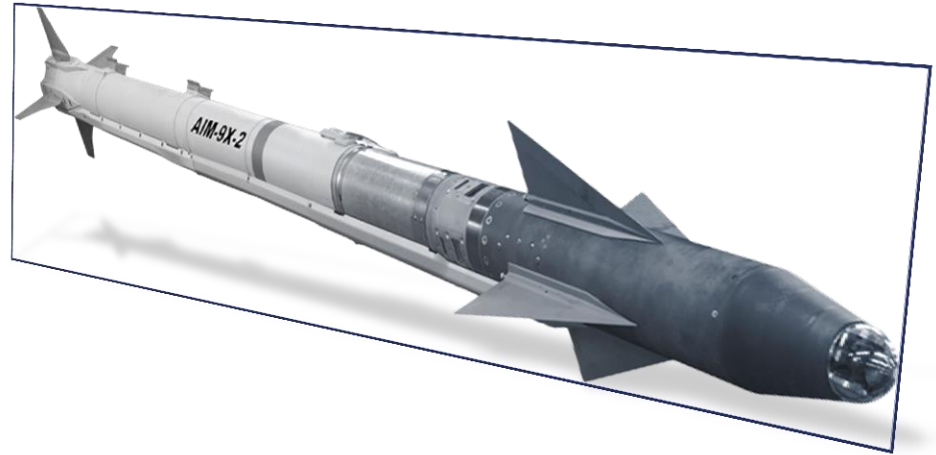
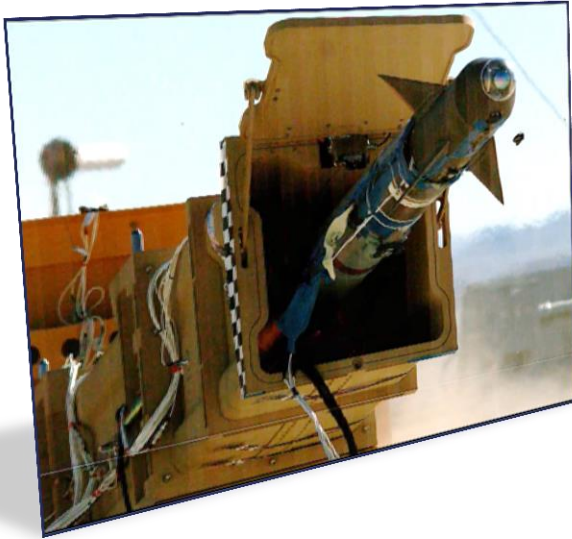


# Weapons





# AIM-9X Sidewinder



- AIM-9X Block II is the most advanced short range air-air missile in the U.S. inventory
- Uses datalink, thrust vectoring maneuverability and advanced imaging infrared seeker to hit targets behind the launching fighter
- AIM-9X successfully supported a unique surface-to-air strategy for the Army's Indirect Fire Protection Capability (IFPC)



# Advanced Medium Range Air-to-Air Missile



- Designed and periodically upgraded to counter existing and emerging threats including Electronic Attack
- Active radar guidance system with inertial reference unit and micro-computer system makes the missile less dependent upon the fire-control system of the aircraft
- In long range engagements AMRAAM receives updated target information via datalink from the launch aircraft



# Tomahawk



- The Tomahawk® Land Attack Missile (TLAM) is a long-range, subsonic cruise missile used for land attack warfare, launched from U.S. Navy surface ships and U.S. Navy and Royal Navy submarines
- Tomahawk® provides an on-scene commander with the flexibility to attack long-range fixed targets or support special operations forces.
- The Tomahawk demonstrated a synthetic guidance capability when the missile altered its course while in flight toward the moving target after receiving position updates from surveillance aircraft





# Educational Partnership Agreements



# Strategic

- **There is a decline in the number of students pursuing Science, Technology, Engineering and Mathematics (STEM) degrees in the United States**
- **Pool of qualified candidates smaller and more difficult to recruit for the Navy's mission critical work.**
- **Encouraging and nurturing a student's interest in STEM subjects must start at the elementary school level and continue through high school and beyond.**
- **NAVAIR has EPAs in place to bring real world science and technology applications to the classroom.**



# Practical

- **Exposure to the vast opportunities at NAVAIR to influence future career decisions.**
- **Opportunity to transfer and/or enhance technology applications and provide technology assistance**
- **Potentially make personnel available to teach or assist in developing courses**
- **Involve faculty and students in research, projects, etc.**





[www.navair.navy.mil](http://www.navair.navy.mil)

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