

**NAVAL AIR SYSTEMS COMMAND
RESEARCH AND ENGINEERING GROUP
&
NAVAL AIR WARFARE CENTER
AIRCRAFT DIVISION**

**PRESENTED TO:
NAVAIR SMALL BUSINESS
AVIATION TECHNOLOGY CONFERENCE**

RDML STEVE EASTBURG

ASSISTANT COMMANDER FOR RESEARCH AND ENGINEERING,
NAVAL AIR SYSTEMS COMMAND HEADQUARTERS

&

COMMANDER, NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION

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NAVAIR'S ROLE IN NAVAL AVIATION IS . . .

- . . . Underpinned by Research and Engineering and the work of our Warfare Centers, and*
- . . . Relies on collaboration and partnerships with industry, especially small business*

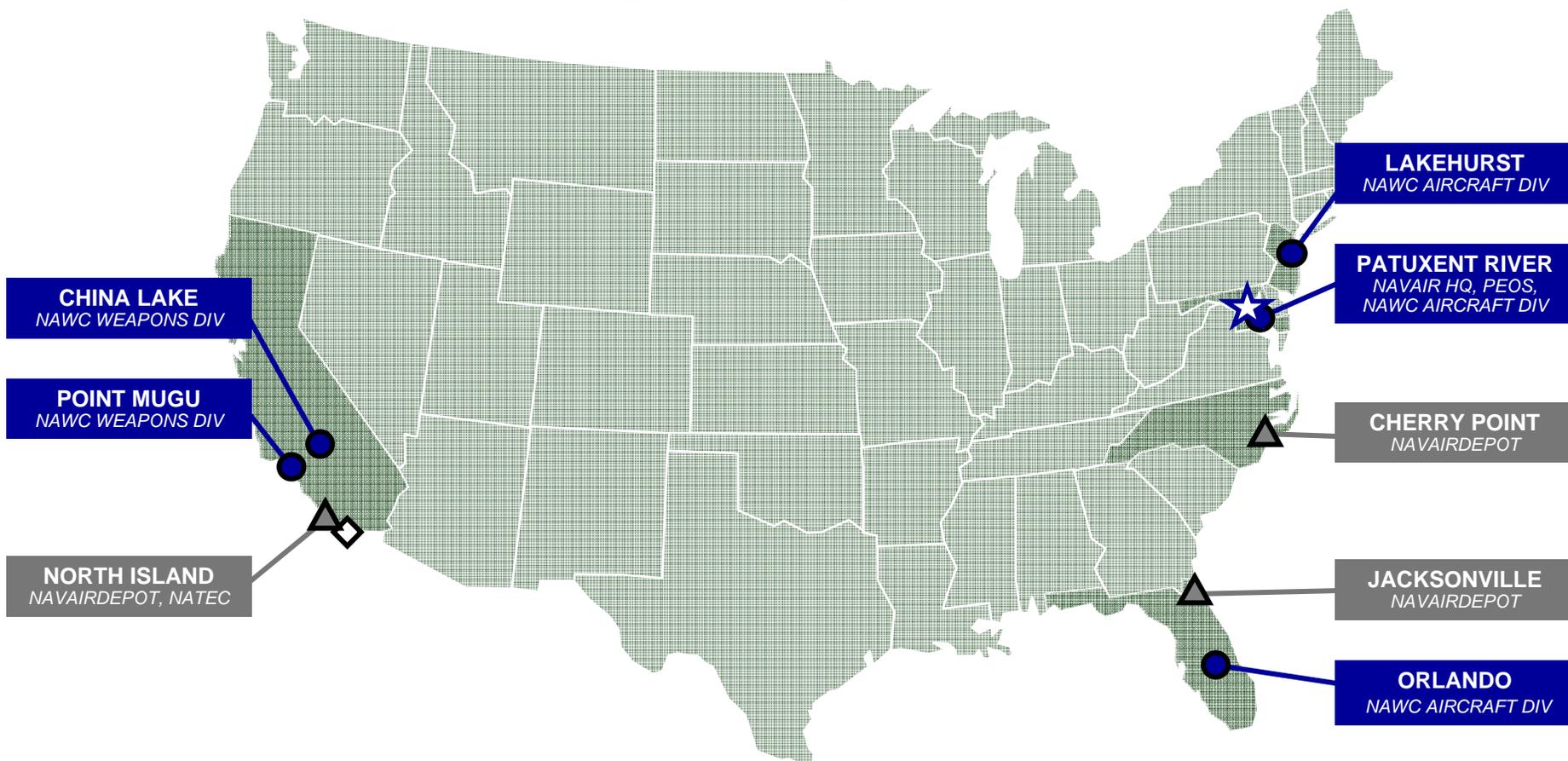


COMPARATIVE SCALING
USS GEORGE WASHINGTON (CVN-73)
OVERLAID ON TYPICAL AIRFIELD RUNWAY
(12,000 FT.X150 FT)

Research and Engineering equalizes the playing field

NAVAIR MAJOR SITES

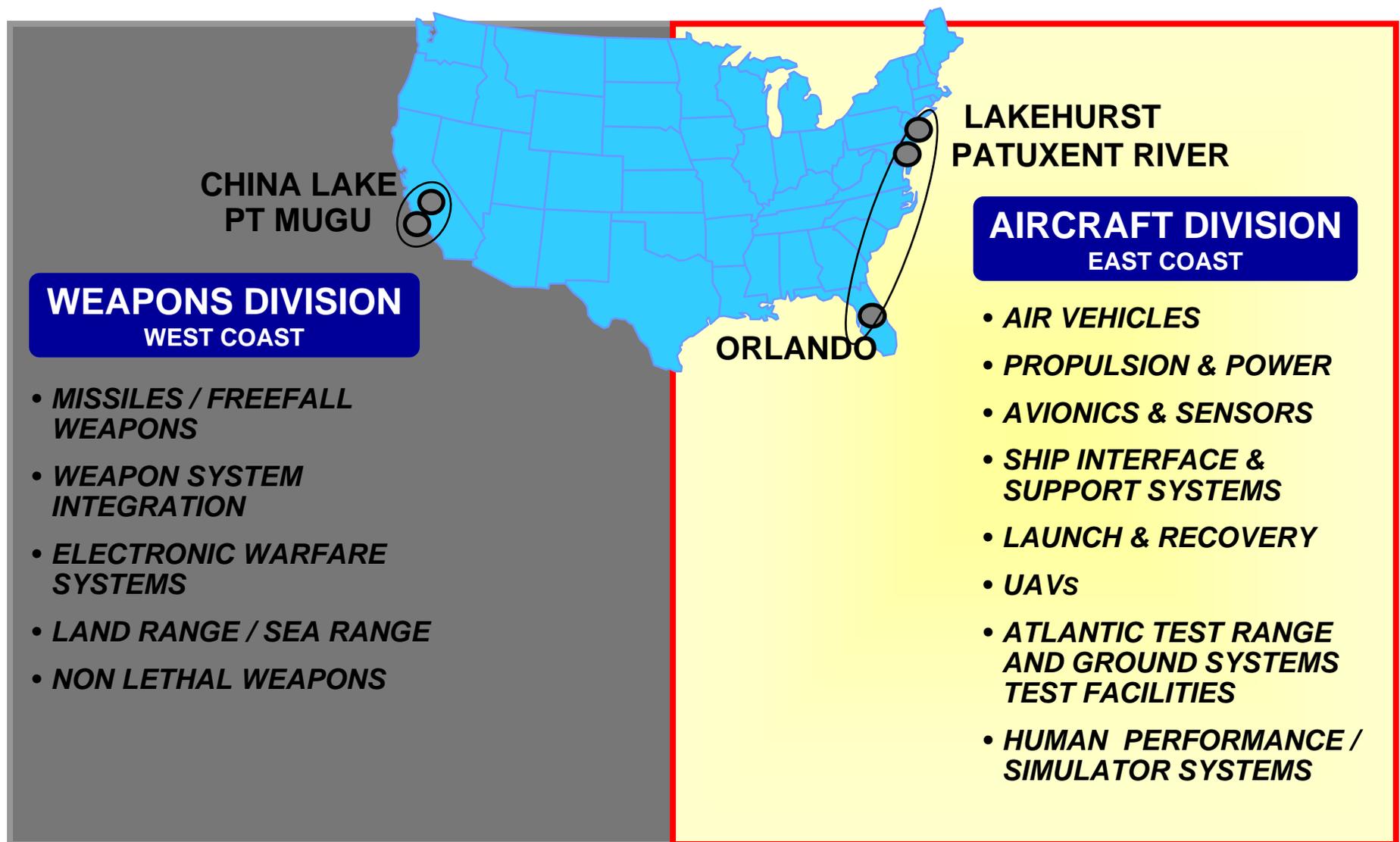
Research and Engineering is at all of them.....



- ★ NAVAIR HQ
- NAVAL AIR WARFARE CENTER
- ▲ NAVAL AIR DEPOT
TRANSITIONING TO FLEET READINESS CENTERS
- ◇ LOGISTIC SUPPORT ACTIVITY

▲ NAPRA – ATSUGI, JAPAN

NAVAIR'S TWO WARFARE CENTERS



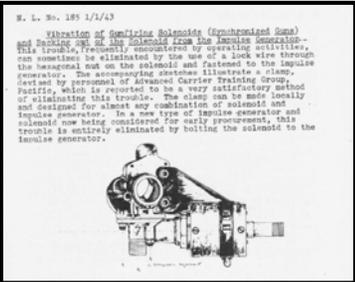
RESEARCH AND ENGINEERING FOUNDATION & FUTURE OF NAVAL AVIATION

PAST

PRESENT

FUTURE

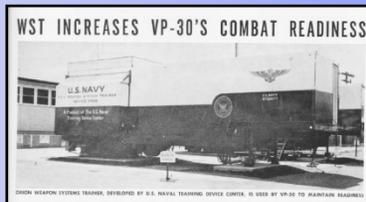
JAN '43 Naval Aviation News



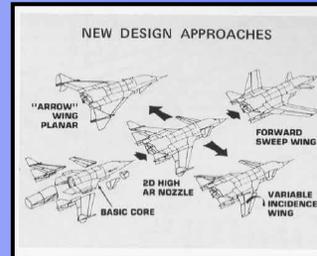
AUG '54 Naval Aviation News



SEP '67 Naval Aviation News



FEB '81 Naval Aviation News



JAN/FEB '05 Naval Aviation News



Bureau of Aeronautics (Navy)



Bureau of Naval Weapons



NAVAL AIR SYSTEM COMMAND

Research and Engineering Touches All Phases of Every Line of Business



RESEARCH & ENGINEERING CAPABILITIES AND LEADERSHIP AREAS

CAPABILITIES

- **INTEGRATED KNOWLEDGE FOR FULL SPECTRUM RESEARCH, DEVELOPMENT AND IN-SERVICE ENGINEERING**
- **TECHNOLOGY INSERTION THROUGH RESEARCH**
- **WEAPON SYSTEM SPECIFICATION DEVELOPMENT AND DESIGN ATTRIBUTE DEFINITION**
- **NAVY OPERATING ENVIRONMENT UNDERSTANDING – PHYSICAL AND WARFIGHTER PRACTICES**
- **DESIGN VALIDATION**
- **SYSTEMS AND “SYSTEMS-OF-SYSTEMS” INTEGRATION**

LEADERSHIP AREAS

AIRCRAFT LAUNCH AND RECOVERY SYSTEM
AVIATION SUPPORT EQUIPMENT
AIR VEHICLE PROPULSION SYSTEMS
AIR VEHICLES, MANNED & UNMANNED
WEAPONS MODELING & ANALYSIS
AIRCRAFT ACTIVE AND PASSIVE SIGNATURES
MISSILE SIGNATURE ACTIVE & PASSIVE
AIRCRAFT / MISSILE SURVIVABILITY / VULNERABILITY TESTING
AIRBORNE SURVEILLANCE SYSTEMS
AIR ASW SYSTEMS AND SENSORS
AIRCRAFT EW WARFARE R&D AND ISE
AIR PLATFORM SYSTEMS INTEGRATION
WEAPONS SYSTEM INTEGRATION
COMBAT AND COMBAT CONTROL SYSTEMS R&D
AIRCRAFT ARMAMENT SYSTEMS/EQUIPMENT
MISSILE / MISSILE SUBSYSTEMS R&D AND ISE
FREEFALL / UNGUIDED WEAPONS R&D AND ISE
HUMAN SYSTEMS ENGINEERING
AIRCREW EQUIPMENT & LIFE SUPPORT
PARACHUTE SYSTEMS & COMPONENTS

NAWCAD MISSION

- **NAVY'S PRINCIPAL AVIATION RESEARCH, DEVELOPMENT, TEST, EVALUATION, ENGINEERING AND FLEET SUPPORT ACTIVITY**
 - PROVIDES FULL SPECTRUM AIRCRAFT RESEARCH, DEVELOPMENT, TEST AND EVALUATION, AND LOGISTICS SUPPORT SERVICES DURING THE LIFECYCLE OF THESE PRODUCTS; AND
 - IS THE BUSIEST FLIGHT TEST CENTER IN THE WORLD!

NAWCAD VISION

Winning Today

LEVERAGING UNIQUE FACILITIES
RAPID PROTOTYPING
INTEGRATING ISSCs
FINANCIAL STEWARDSHIP

Securing the Future

S&T

INTEGRATION AND INTEROPERABILITY
NCW CAPABILITIES
UAS CAPABILITIES
MS&A OF AIRCRAFT
JOINT BATTLESPACE ENVIRONMENT

Revitalizing the Workforce

OPERATE AS A TOTAL FORCE
ATTRACT, DEVELOP, & RETAIN
A DIVERSE WORKFORCE
REVITALIZE THE TECHNICAL WORKFORCE
EQUIP OUR PEOPLE

PROGRAMS

E/A-18G
CH-53K
E-2D
P-8A
BAMS
JSF
VH-71
EMALS

PARTNERSHIPS

INDUSTRY
EDUCATION
VETERANS
SMALL BUSINESS

CENTERS FOR ROTARY & FIXED WING RDAT&E

Focus Areas Derived From, and Aligned With, Echelon I & II Guidance

US NAVAL TEST PILOT SCHOOL

- **NAVY'S AIR-SYSTEM TEST AND EVALUATION UNIVERSITY**

- INSTRUCTS EXPERIENCED PILOTS, FLIGHT OFFICERS AND ENGINEERS IN THE PROCESSES AND TECHNIQUES OF AIRCRAFT AND SYSTEMS TEST AND EVALUATION
- PROVIDES SMALL BUSINESSES WITH ACCESS TO A BROAD SPECTRUM OF PROGRAMS AND CUTTING EDGE TECHNOLOGIES
- SHORT COURSES AVAILABLE:

- [HTTP://WWW.USNTPS.NAVY.MIL/](http://www.usntps.navy.mil/)

- [HTTP://WWW.USNTPS.NAVY.MIL/SHORTCOURSES.CFM](http://www.usntps.navy.mil/shortcourses.cfm)

FUTURE ENVIRONMENT

- **INTEGRATION IS THE KEY TO CREATING FUTURE VALUE FOR THE WARFIGHTER**
 - SYSTEM OF SYSTEMS
 - BATTLESPACE INTEGRATION
 - JOINT INTEROPERABILITY
 - AIR / SHIP INTEGRATION
 - HUMAN SYSTEMS INTEGRATION
- **VALUE WILL BE GENERATED BY WORKFORCE AGILITY AND PARTNERSHIPS WITH INDUSTRY**
 - ABILITY TO RESPOND TO NEW THREATS
 - ASSEMBLE / REASSEMBLE SKILLED WORKGROUPS TO RAPIDLY RESPOND TO NAVY'S NEEDS
 - MORE FLUID STRUCTURES YIELD EFFICIENCY AND ALLOW EXPERTISE TO BE MULTI-TASKED AND RAPIDLY DEPLOYED TO PRIORITY JOBS

NAWCAD BUSINESS OFFICE



Mission

To foster innovation, promote technology transfer and create partnerships to deliver better products at a reduced cost to the military via:

- Commercial Service Agreements (CSAs)
- Cooperative Research and Development Agreements (CRADAs)
- Patent License Agreements (PLAs)
- Educational Partnership Agreements (EPAs)

FY07 Metrics

- Commercial Service Agreements
 - 17 Signed
 - \$2.9M Effort to support Industry
- Cooperative Research and Development Agreements
 - 7 Signed
- Patent Portfolio
 - 12 New patent applications to USPTO
 - 83 Available for licensing
- Educational Partnership Agreements
 - 5 Active, 3 in process

For more information on leveraging NAWCAD's unique labs, facilities, or patents contact:

Mr. Michael Schroeder
Director, NAWCAD Business Office

Partnerships and Agreements are directly benefiting NAVAIR Programs

Summary

- **Small Business is a key element to Naval Aviation success**
- **We value what you bring to the table**
- **Learn about us, and help us learn about what you have to offer**
- **Small business played an important part in our history, and has an essential role in our future**

Back-up Slides

COMPETENCY

- MAJOR ORGANIZATIONAL ELEMENT COMPOSED OF PEOPLE IN A PARTICULAR DISCIPLINE WHO HAVE THE TRAINING, EDUCATION, EXPERIENCE, FACILITIES, EQUIPMENT, AND PROCESSES NECESSARY TO SATISFY NAVAIR PROGRAM TEAMS, OTHER CUSTOMER DEMANDS, AND INSTITUTIONAL NEEDS
- UNIFIED NATIONALLY ACROSS NAVAIR AND LINKED ACROSS GEOGRAPHICAL SITES BY COMMON PROCESSES AND STANDARDS
- RECRUITS AND DEVELOPS NEEDED TALENT, MATCHES SUPPLY TO DEMAND, DEFINES AND IMPROVES PROCESSES, INFUSES TECHNOLOGY, AND APPLIES LESSONS-LEARNED IN SUPPORT OF NAVAIR TEAMS AND OTHER CUSTOMERS
- PROVIDES GUIDANCE, SUPPORT, AND INTERACTION WITH INDIVIDUALS MAPPED TO TEAMS

CAO PRECEPT = PERSONNEL ARE ALIGNED TO A COMPETENCY AND MAPPED TO A TEAM(S)

BUSINESS UNITS (DEPOTS / WARFARE CENTERS)

- **CREATE AN ENVIRONMENT TO ENSURE COST-EFFECTIVE OPERATIONS WITHIN THE AREA / DEPOT COMMANDS, AS AN INTEGRAL PART OF OVERALL NAVAIR CONOPS**
- **PERFORM SELLER / SUPPLIER ROLE/RELATIONSHIPS**
- **INTEGRATE COMPETENCY PLANNING AND BUDGETING ACTIVITIES**
- **ALLOCATE AND DISTRIBUTE FUNDS AS PLANNED; MONITOR EXECUTION; AND WORK WITH COMPETENCY LEADERS TO RESOLVE CROSS-COMPETENCY ISSUES WITHIN THEIR AREA / DEPOT**
- **SERVE AS MANAGEMENT AGENT AND ARBITER OF RESOURCES BETWEEN THE AREA / SITE EDTS (EXTERNALLY DIRECTED TEAM) AND THEIR SPONSORS, AND PARTICIPATE IN THE DETERMINATION OF WHICH COMPETENCY HAS OVERSIGHT RESPONSIBILITY FOR THEIR EDTS**
- **PERFORM ASSIGNED FIDUCIARY FUNCTIONS AND REPORTING SENIOR FOR MILITARY OFFICERS WITH THEIR COMMAND**
- **DIRECT OPERATIONS/ILLUMINATE ISSUES IN BEST INTERESTS OF NAVY**

COMMAND GOALS

ALIGNED WITH NAVY LEADERSHIP GOALS & PRIORITIES

CNO GOALS

SUSTAIN COMBAT READINESS

HELP OUR JOINT, ALLIED, AND COALITION PARTNERS WIN THE GLOBAL WAR ON TERROR PROVIDE DIRECT AND INDIRECT COMBAT SUPPORT TO THE MARINE CORPS IMPROVE OUR CORE WARFIGHTING CAPABILITIES WITH AN EYE BEYOND IRAQ SUPPORT THE COAST GUARD'S HOMELAND DEFENSE INITIATIVES CONDUCT INTERNATIONAL DISASTER RELIEF AND HUMANITARIAN MISSIONS

BUILD A FLEET FOR THE FUTURE

BUILD A BALANCED FLEET OF 313 SHIPS BY 2020 HELP THE "1000-SHIP NAVY" ACHIEVE GLOBAL MARITIME SECURITY EXECUTE A LONG-RANGE AVIATION PROCUREMENT, RECAPITALIZATION, & MODERNIZATION PLAN

DEVELOP 21ST CENTURY LEADERS

DEVELOP CAREER PATHS AND SEA/SHORE ROTATIONS THAT SUPPORT PERSISTENT FORWARD PRESENCE PROMOTE A MORE DIVERSE CULTURE WHERE ANYONE CAN REACH HIS OR HER FULL POTENTIAL USE THE NAVY ENTERPRISE FRAMEWORK TO MANAGE AND DELIVER READINESS AND CAPABILITIES

PROVIDER ENTERPRISE OBJECTIVES

- DELIVER OUTPUT TO SUPPORT CURRENT READINESS REQUIREMENTS
- DELIVER CURRENT ACQUISITION PROGRAMS TO COST, SCHEDULE, AND PERFORMANCE
- REDUCE FUTURE ACQUISITION PROGRAM PROCUREMENT COSTS
- REDUCE FUTURE ACQUISITION PROGRAM TOTAL OWNERSHIP COSTS
- IMPROVE INTEGRATION OF SCIENCE AND TECHNOLOGY INTO WES
- USE COMMON PROGRAM FUNDING RISK FRAMEWORK (WITH OPNAV ROS)
- DELIVER RIGHT BALANCE OF SKILLED PERSONNEL TO THE ENTERPRISE
- INCREASE PRODUCTIVITY OF EACH PROVIDER WITH THE OBJECTIVE OF REDUCING PE COSTS
- INSTITUTIONALIZE DESIRED ENTERPRISE CULTURE AND BEHAVIORS

NAVAIR GOALS

CURRENT READINESS

CONTRIBUTE TO DELIVERING NAVAL AVIATION UNITS READY FOR TASKING WITH THE RIGHT CAPABILITY, AT THE RIGHT TIME, AT THE RIGHT COST

FUTURE CAPABILITIES

DELIVER NEW AIRCRAFT, WEAPONS, AND SYSTEMS THAT MEET FLEET NEEDS, ON TIME AND WITHIN BUDGET, AND PROVIDE A TECHNOLOGICAL EDGE OVER ADVERSARIES

PEOPLE

DEVELOP OUR PEOPLE AND PROVIDE THEM WITH THE TOOLS, INFRASTRUCTURE, AND PROCESSES THEY NEED TO DO THEIR WORK

ENABLED BY TECHNICAL, BUSINESS, AND LEADERSHIP EXCELLENCE

RESEARCH AND ENGINEERING MISSION

The Research and Engineering Group provides the people, processes, and facilities required to support the maritime engineering needs of science and technology development, systems acquisition, and product support of all Naval aviation aircraft, weapons, and support systems.

Support is provided to Integrated Program Teams (IPTs), Externally Directed Teams (EDTs), and Enterprise Teams (ETs) in the areas of:

- Technology and Intelligence
- Airworthiness
- Systems Engineering
- Cost
- Aircraft and Unmanned Aerial Vehicles (UAV)
- Propulsion and Power Engineering
- Avionics
- Human Systems
- Weapons and Energetics
- Support Equipment and Aircraft Launch and Recovery Equipment
- Research and Engineering Sciences
- Warfare Analysis

RESEARCH & ENGINEERING GROUP VISION

- Our customers, and the success of their programs, are our first priority and we will earn a reputation with them for consistently exceeding their expectations in all areas of our business.
- We will build and maintain a world class workforce that is respected by our customers and regarded as a benchmark by our government and industry peers.
- Process and technical excellence will be evident in all aspects of our work, as is our commitment to continual improvement in efficiency and quality as defined by our customers.
- Our leadership style and work environment will reflect team cohesiveness, collaboration, and clear alignment with DOD, Navy, NAE and NAVAIR.

NAS PAX: AIR COMBAT ENVIRONMENT TEST AND EVALUATION FACILITY



ACETEF, the Navy's fully integrated RDT&E Installed Systems Test facility, provides full spectrum evaluation of highly integrated aircraft and aircraft systems in a secure controlled engineering environment



NAS PAX: AIR VEHICLES/MATERIALS LABS AND FACILITIES

Adhesive Bonding & Technology Lab



Landing Gear Composite



Organic Coatings



Surface Interactions

NAS PAX: ATLANTIC TEST RANGE



**Includes:
Dynamic RCS
RTPS**

FY06 FUND FLOW

