



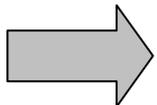
**NAVAL AVIATION ENTERPRISE
SCIENCE & TECHNOLOGY PROGRAM**

**DR. JOHN FISCHER
NAVAL AIR SYSTEMS COMMAND
29 NOVEMBER 2006**

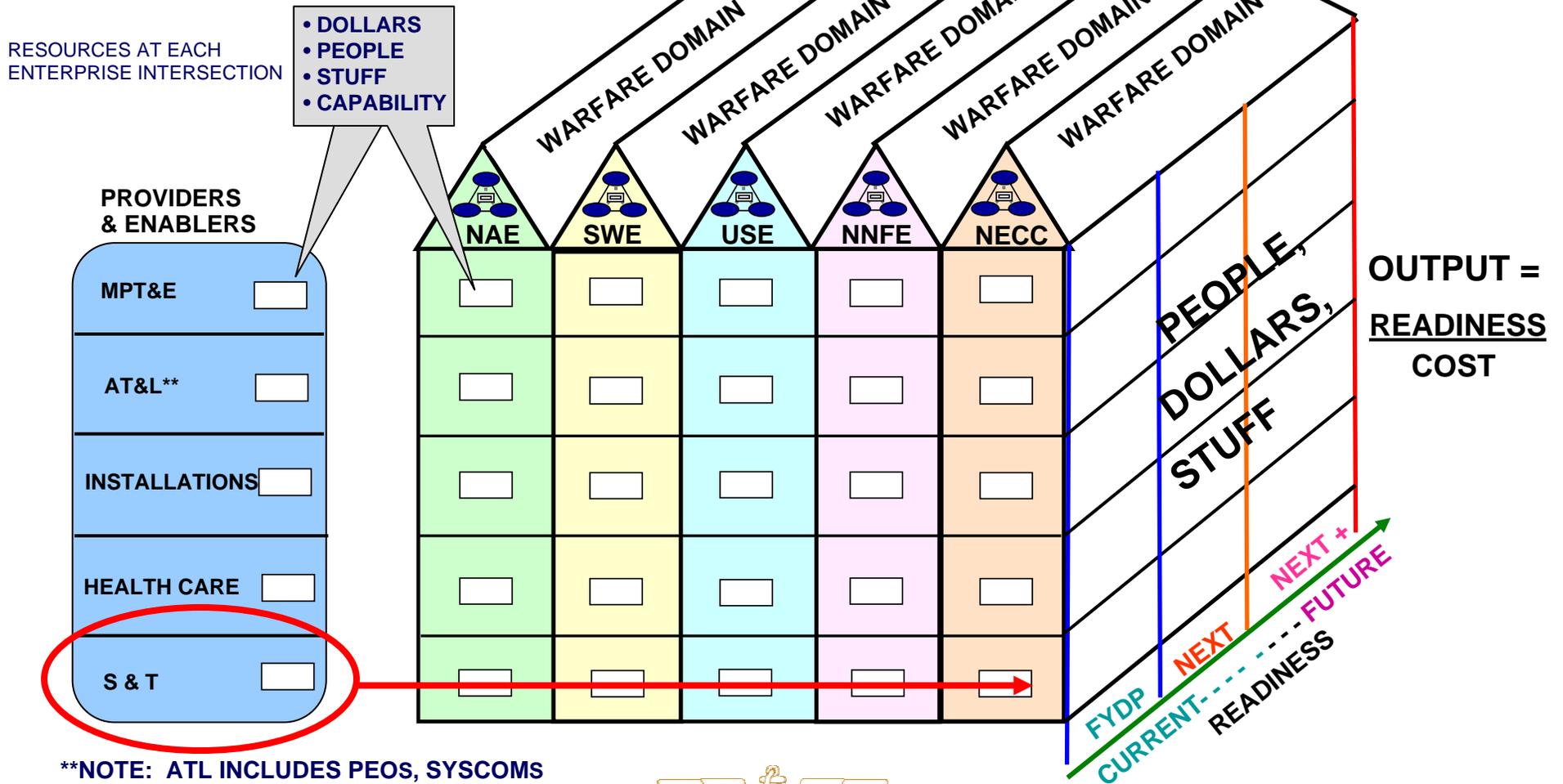


NAVY OPERATING CONCEPT (CURRENT & FUTURE READINESS)

PROVIDERS / ENABLERS
(SUPPORTING WARFARE ENTERPRISES)



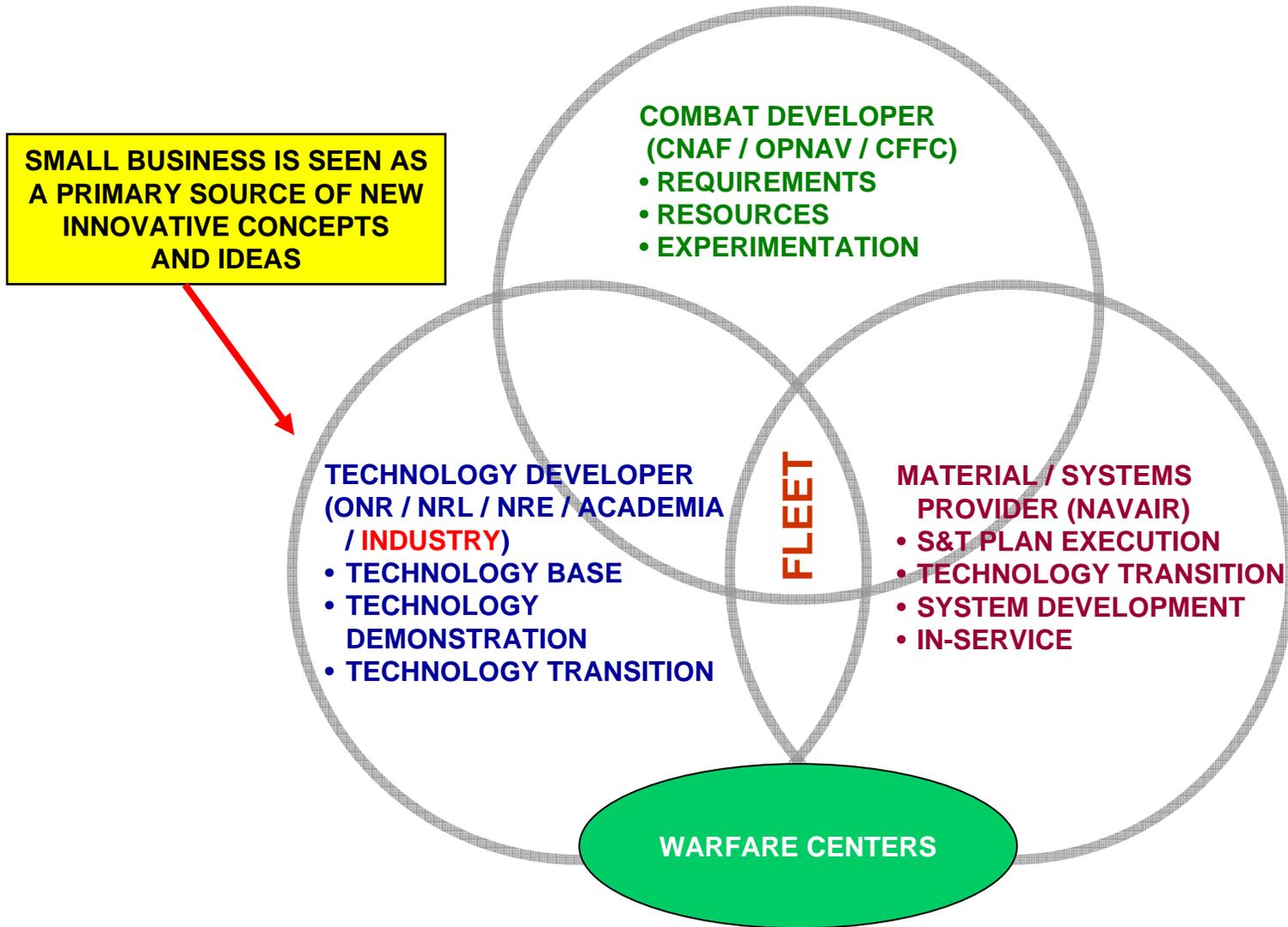
WARFARE ENTERPRISES
(DELIVERING COMBAT CAPABILITY TO COCOMS)



**NOTE: ATL INCLUDES PEOS, SYSCOMS



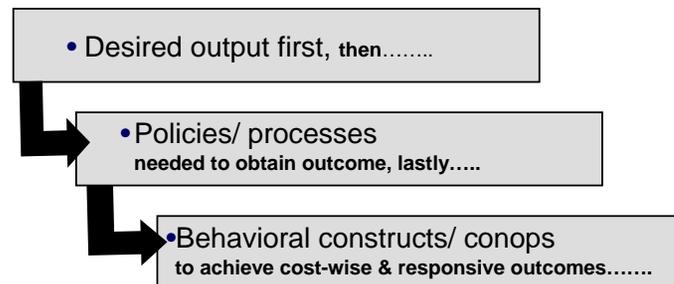
THE NAVAL AVIATION S&T ENTERPRISE



S&T PROCESS ALIGNMENT – WHAT’S NEEDED

- ROBUST NAVAL AVIATION S&T PLANNING PROCESS
- EMPHASIZE REQUIREMENTS DRIVEN S&T INVESTMENTS YET FOSTER INNOVATIVE CONCEPTS WHICH WOULD PROVIDE NEW RELEVANT WARFIGHTING CAPABILITIES
 - BALANCE OF REQUIREMENTS PULL AND TECHNOLOGY PUSH
 - PROCESS TO ENABLE OPERATORS TO CONDUCT “WHAT IF” SCENARIOS ALONGSIDE TECHNOLOGISTS TO ASSESS LEADING-EDGE TECHNOLOGIES AND CREATE NEW AND INNOVATIVE TECHNOLOGY APPLICATIONS
- PRIORITIZATION PROCESS
- INCREASED VISIBILITY INTO S&T INVESTMENTS WHICH BENEFIT NAVAL AVIATION
- METHODS AND TOOLS TO ASSESS THE RELATIVE VALUE OF S&T INVESTMENTS (COST, CAPABILITY, RISK)

Need to Define:



STEP 1
“NAE S&T STRATEGIC PLAN”

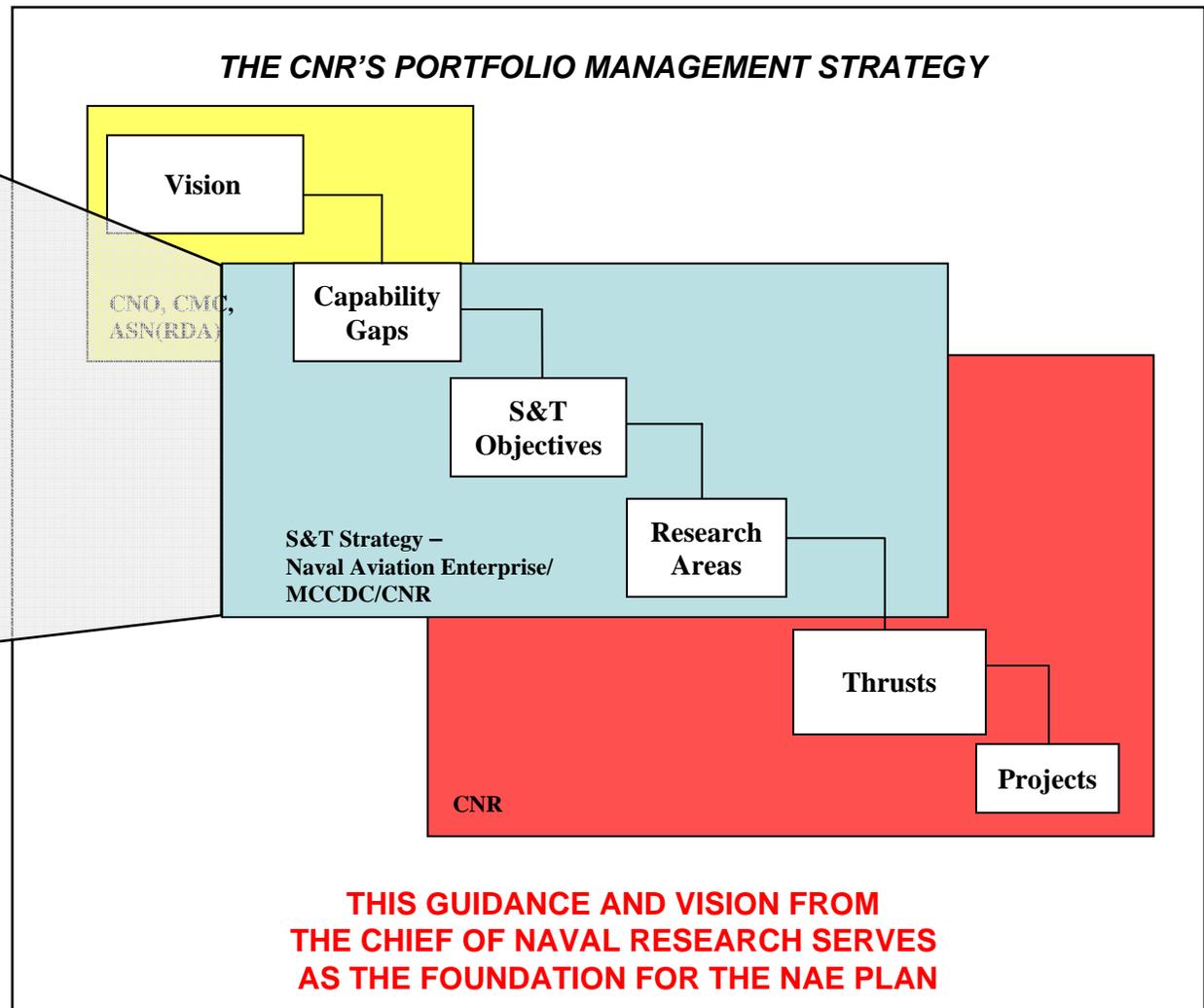
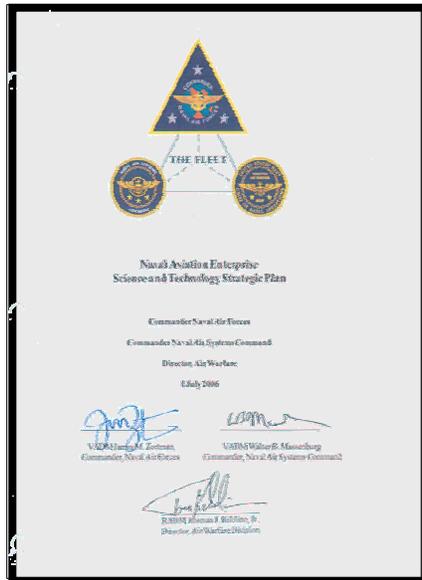
**A SHARED VISION WITH THE
OFFICE OF NAVAL RESEARCH**

A Behavioral Model For the Greater Good



FIRST STEP IN DEVELOPING AN S&T INVESTMENT STRATEGY

NAE S&T STRATEGIC PLAN
****SIGNED 1 JULY 2006**



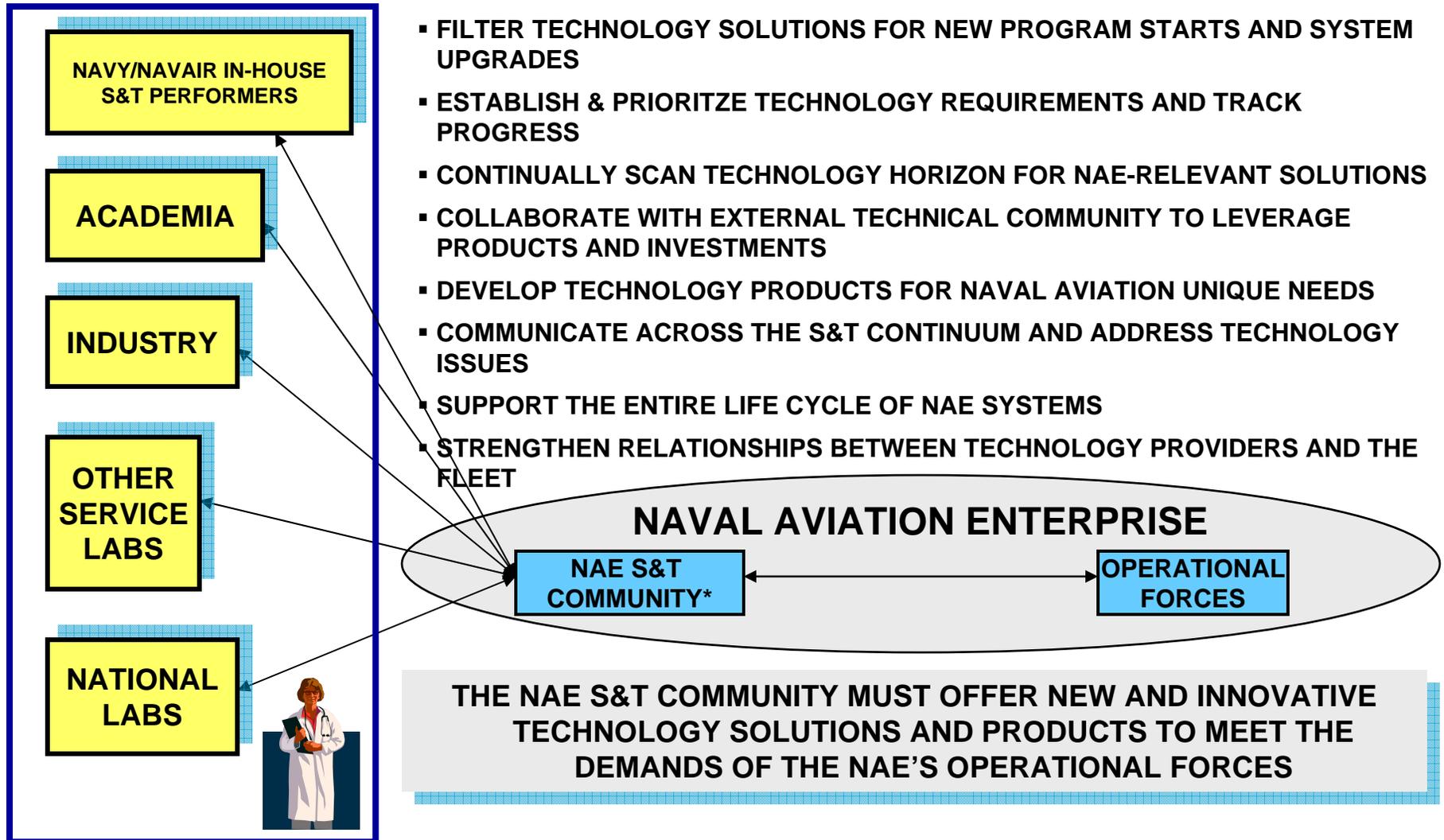
- ENTERPRISE ALIGNMENT
- IDENTIFY GAPS & NEEDS
- FOCUS OBJECTIVES
- DEFINE RESEARCH AREAS
- ALIGN INVESTMENTS
- DEVELOP CONOPS TO SUPPORT NAE S&T VISION



ACHIEVING THE NAE S&T VISION

THE S&T COMMUNITY WILL:

- COMMUNICATE NAE NEEDS TO THE EXTERNAL TECHNICAL COMMUNITY
- ALIGN INVESTMENTS TO NAE CAPABILITIES NEEDS
- FILTER TECHNOLOGY SOLUTIONS FOR NEW PROGRAM STARTS AND SYSTEM UPGRADES
- ESTABLISH & PRIORITIZE TECHNOLOGY REQUIREMENTS AND TRACK PROGRESS
- CONTINUALLY SCAN TECHNOLOGY HORIZON FOR NAE-RELEVANT SOLUTIONS
- COLLABORATE WITH EXTERNAL TECHNICAL COMMUNITY TO LEVERAGE PRODUCTS AND INVESTMENTS
- DEVELOP TECHNOLOGY PRODUCTS FOR NAVAL AVIATION UNIQUE NEEDS
- COMMUNICATE ACROSS THE S&T CONTINUUM AND ADDRESS TECHNOLOGY ISSUES
- SUPPORT THE ENTIRE LIFE CYCLE OF NAE SYSTEMS
- STRENGTHEN RELATIONSHIPS BETWEEN TECHNOLOGY PROVIDERS AND THE FLEET



*INCLUDES IN-HOUSE S&Es, ONR, DARPA, AND NRL

ACHIEVING THE NAE S&T VISION

- **NAE STRATEGIC PLAN SIGNED – 1 JULY 06**
 - CNAF, COMNAVAIR, N88
- **PARTNERSHIPS DEVELOPED WITH CNAF, USMC, CNR, N-88, NAVAIR AND ONR IN A JOINT EFFORT TO SUPPORT PR09 AND BEYOND**
- **TAKE ADVANTAGE OF BEST PRACTICES USED BY OTHER SERVICES RECOMMENDED IN THE 2006 NSB REPORT ON NAVAL AVIATION S&T**
- **S&T PROGRAM DEVELOPMENT AND EXECUTION IS CHANGING**
 - WORK IN PROGRESS
- **INDUSTRY, ESPECIALLY SMALL BUSINESS, IS A CRITICAL ELEMENT FOR SUCCESS**



CURRENT NAE S&T AREAS

- **AIR VEHICLES**

- COMPUTATIONAL FLUID DYNAMICS
- STRUCTURES
- UAVS

- **PROPULSION**

- AIRCRAFT TURBINE ENGINES
- MISSILE ROCKET MOTORS
- ELECTRICAL POWER
- ALTERNATIVE FUELS

- **AVIONICS**

- RADAR
- ASW
- SENSORS
- ADVANCED COMMUNICATION SYSTEMS

- **CREW SYSTEMS**

- LASER EYE PROTECTION
- EJECTION SEATS
- AIRCREW PROTECTION
- TRAINING

- **WEAPONS & ENERGETICS**

- MISSILE / WEAPON TECHNOLOGY
- EXPLOSIVES / PROPELLANTS
- TARGETING

- **AIRCRAFT / SHIP INTERFACE**

- ELECTROMAGNETIC LAUNCH
- ADVANCED RECOVERY SYSTEMS
- DECK HANDLING OF AIRCRAFT

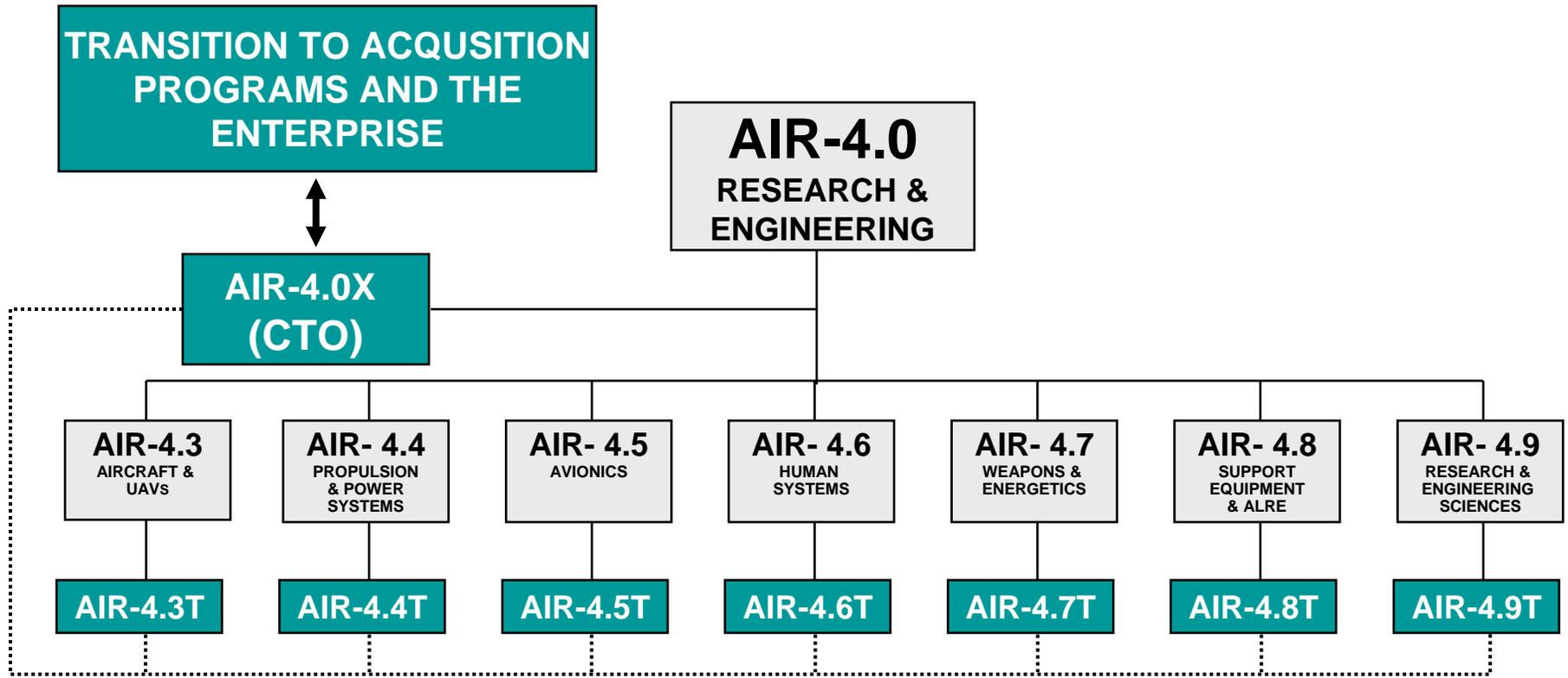
- **AIRCRAFT SURVIVABILITY**

- **MATERIALS ENGINEERING**

- **RESEARCH IN CHEMISTRY, PHYSICS, AND IMAGE PROCESSING**



S&T CONOPS FOR THE NAE



- T-CODES ARE RESPONSIBLE FOR ALL S&T ACTIVITIES WITHIN THEIR RESPECTIVE LEVEL 2 COMPETENCIES AND AN ENTRY POINT FOR INDUSTRY
- S&T COORDINATION, PLANNING, AND EXECUTION IS THE RESPONSIBILITY OF THE CTO WORKING WITH AND THROUGH THE T-CODES
- THE CTO SERVES AS THE NAVAL AVIATION ENTERPRISE CHIEF TECHNOLOGY OFFICER



SUMMARY

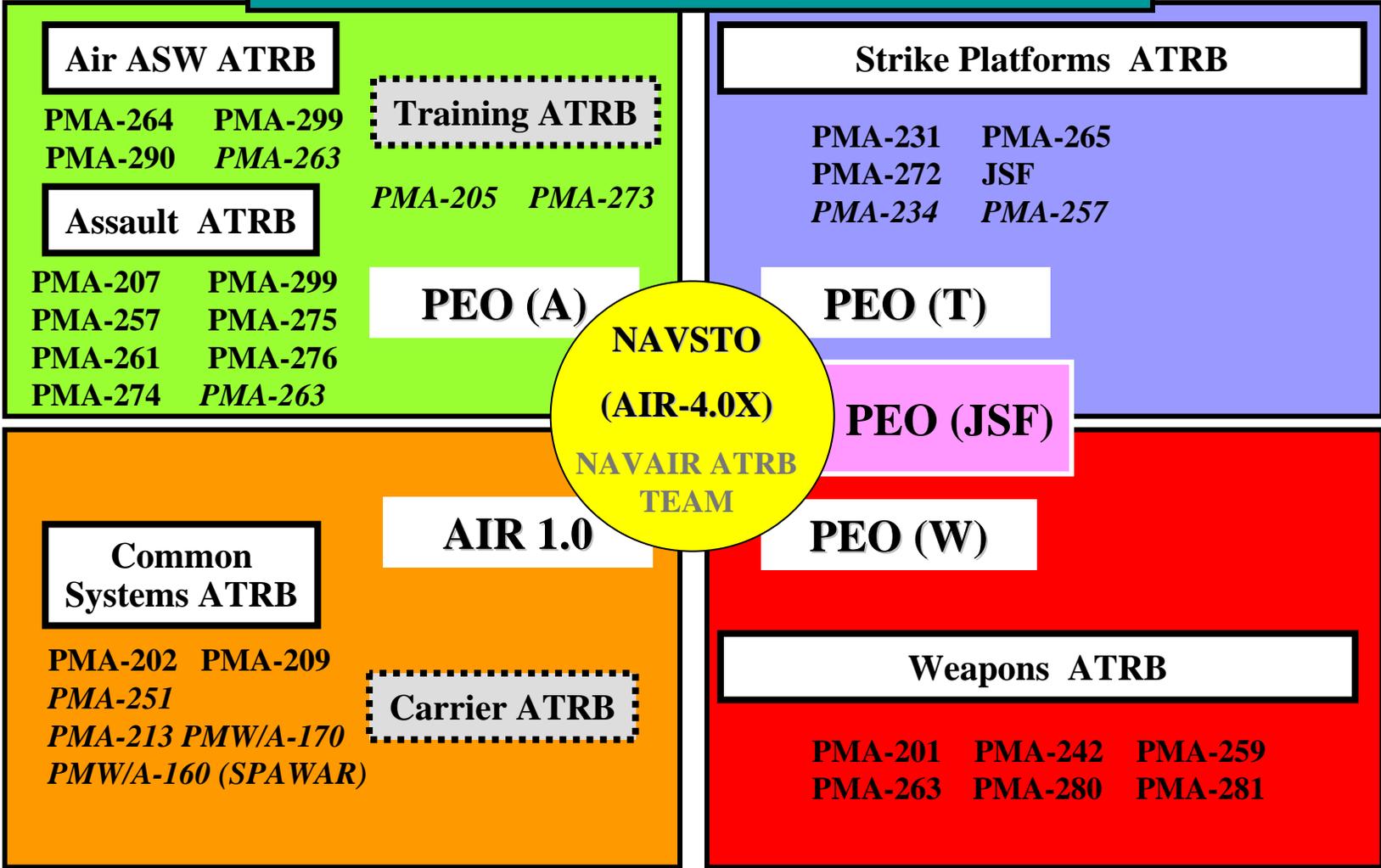
- **INDUSTRY, ESPECIALLY SMALL BUSINESS, IS A CRITICAL ELEMENT OF THE NAE S&T ENTERPRISE**
- **NAE IS IN THE PROCESS OF RESTRUCTURING ITS S&T PROGRAM**
- **ALL S&T ACTIVITY WILL BE ALIGNED WITH THE NAE S&T STRATEGIC PLAN AND THE CNR'S INVESTMENT STRATEGY**



AIRTECH/ATRIB STRUCTURE



OPNAV (N88)/HQMC-APW



Proposed ATRB (dashed border)

Observing PMA



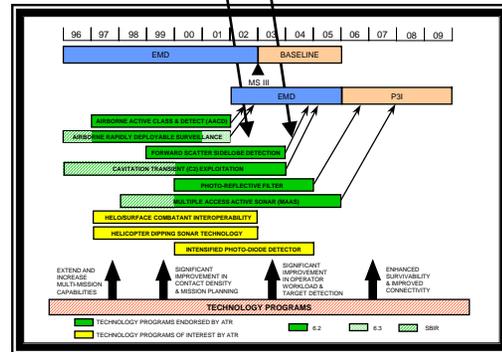
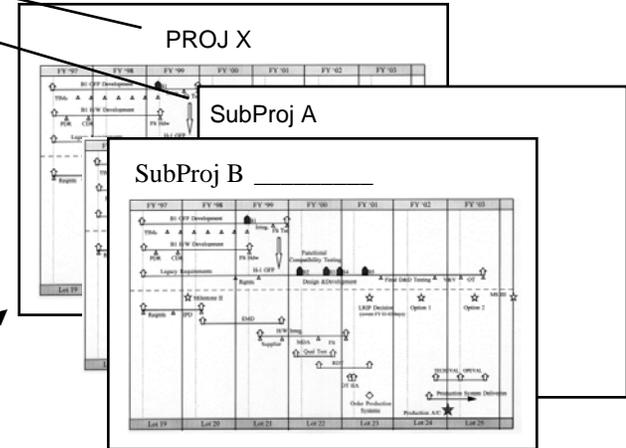
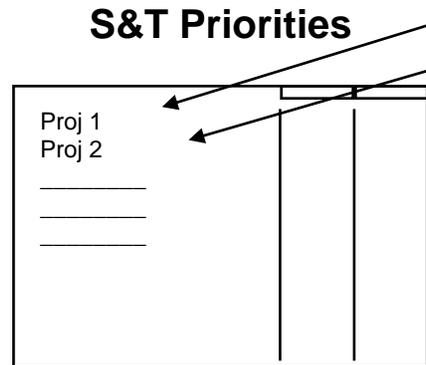
ATRB Products



N7 Warfighting Requirements/Gaps (~NCDP)

Req. Name	Current Status	Priority	01	02	03	04	05	06	07	08	09
1.1.1.1	Open	High									
1.1.1.2	Open	High									
1.1.1.3	Open	High									
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1.1.1.100	Open	High									

S&T Support Plan (Tech Transition Agreement—TTA)



ATRB Technology Transition Roadmap



ATRB WEBSITE



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- **URL: <http://atrb.navair.navy.mil>**

