Munitions Executive Summit

OSD Perspective

February 7, 2007

Anthony J. Melita
OUSD (Acquisition, Technology & Logistics)
Deputy Director, Portfolio Systems Acquisition,
Land Warfare and Munitions

Discussion Topics

- OSD / AT&L Organization
- DoD Business Processes
  - AT&L Goals and Initiatives
- Budget Trends
- Munitions Interest Areas
  - DOTC and Joint Munitions Program
  - Modeling & Simulation
  - Insensitive Munitions
  - Low Collateral Damage
  - Emerging Contaminants
  - Standardization

Office of the Secretary of Defense

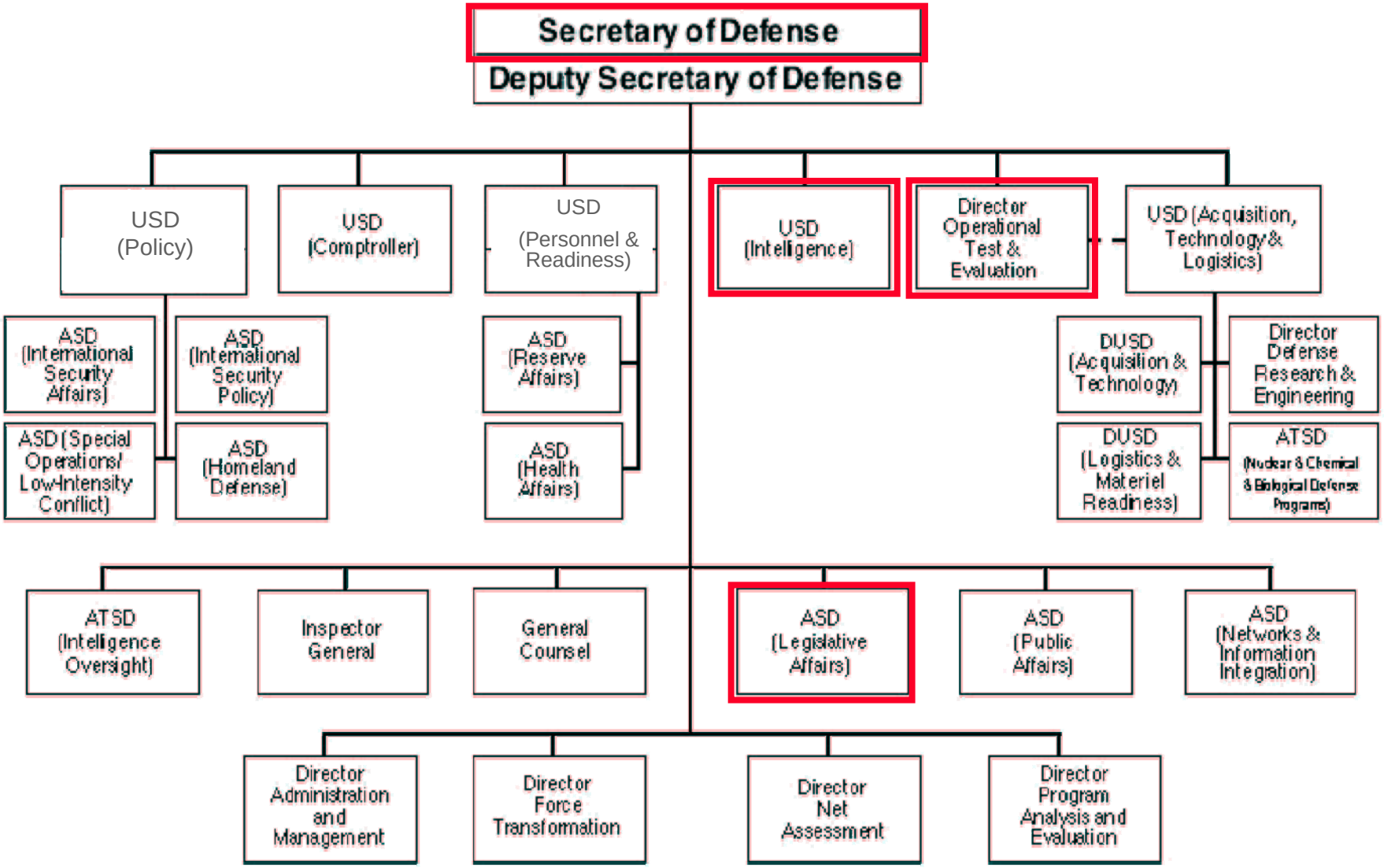
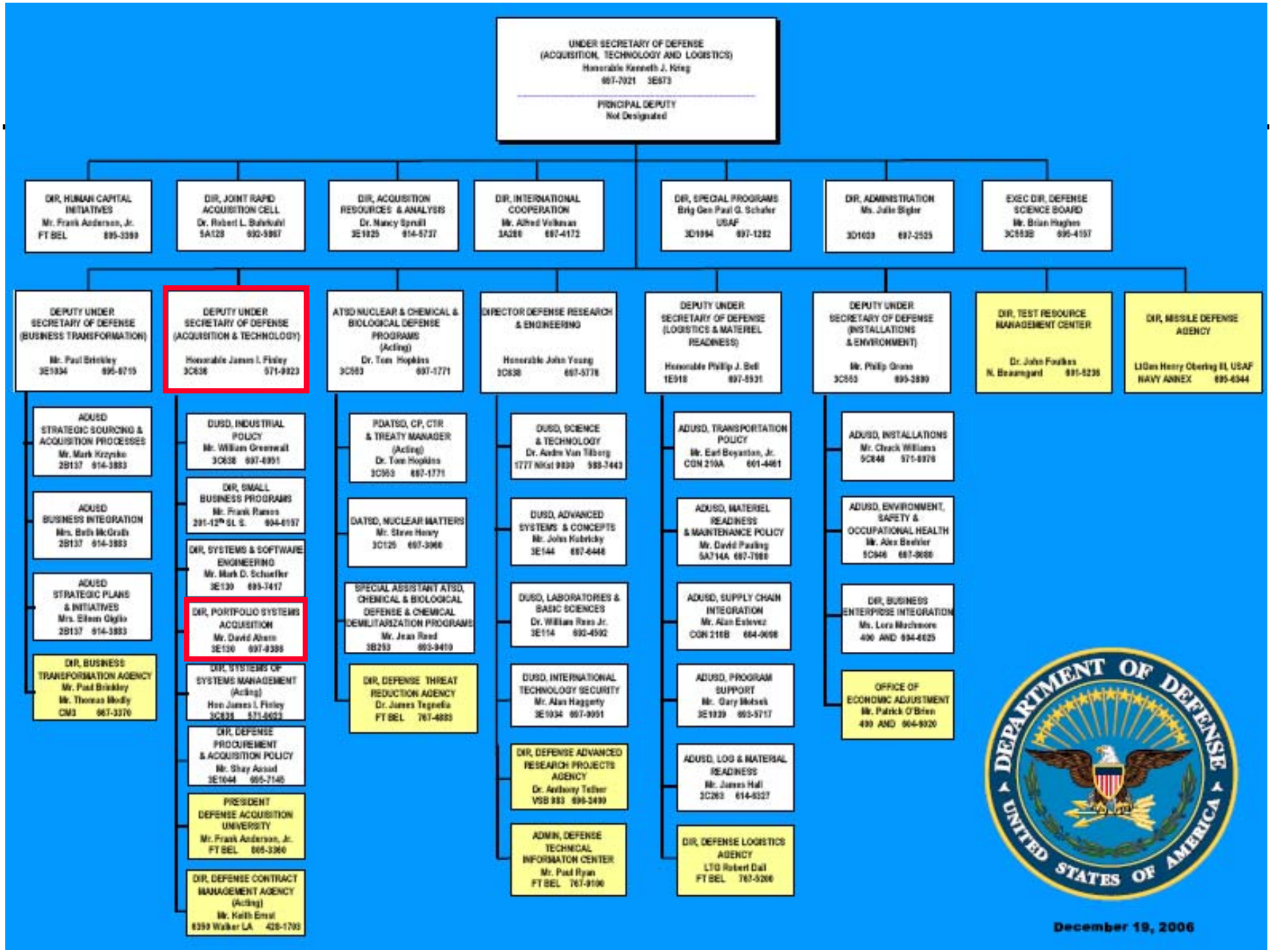
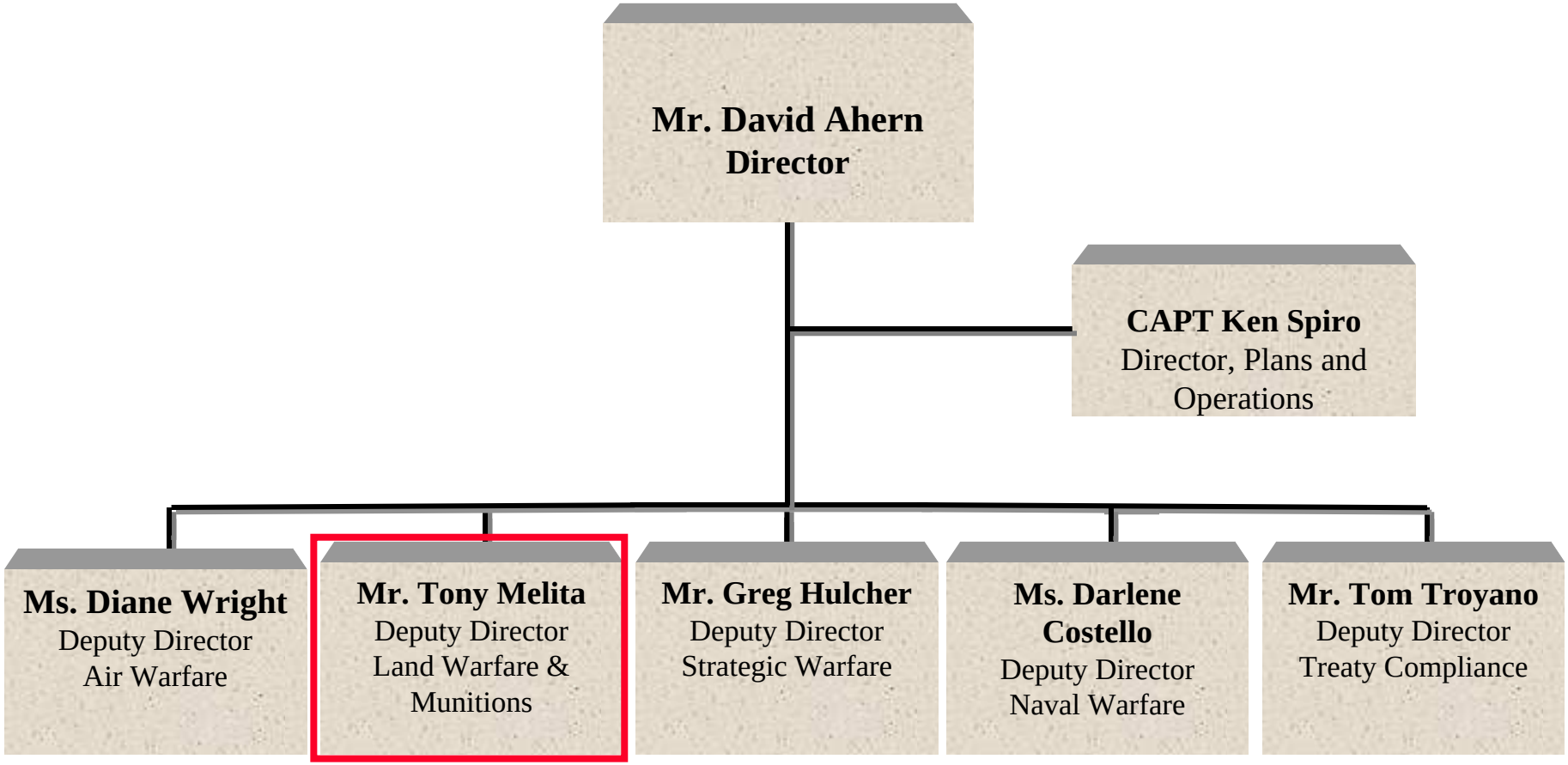


Chart reflects PAS officials and those reporting directly to the Secretary and Deputy Secretary of Defense

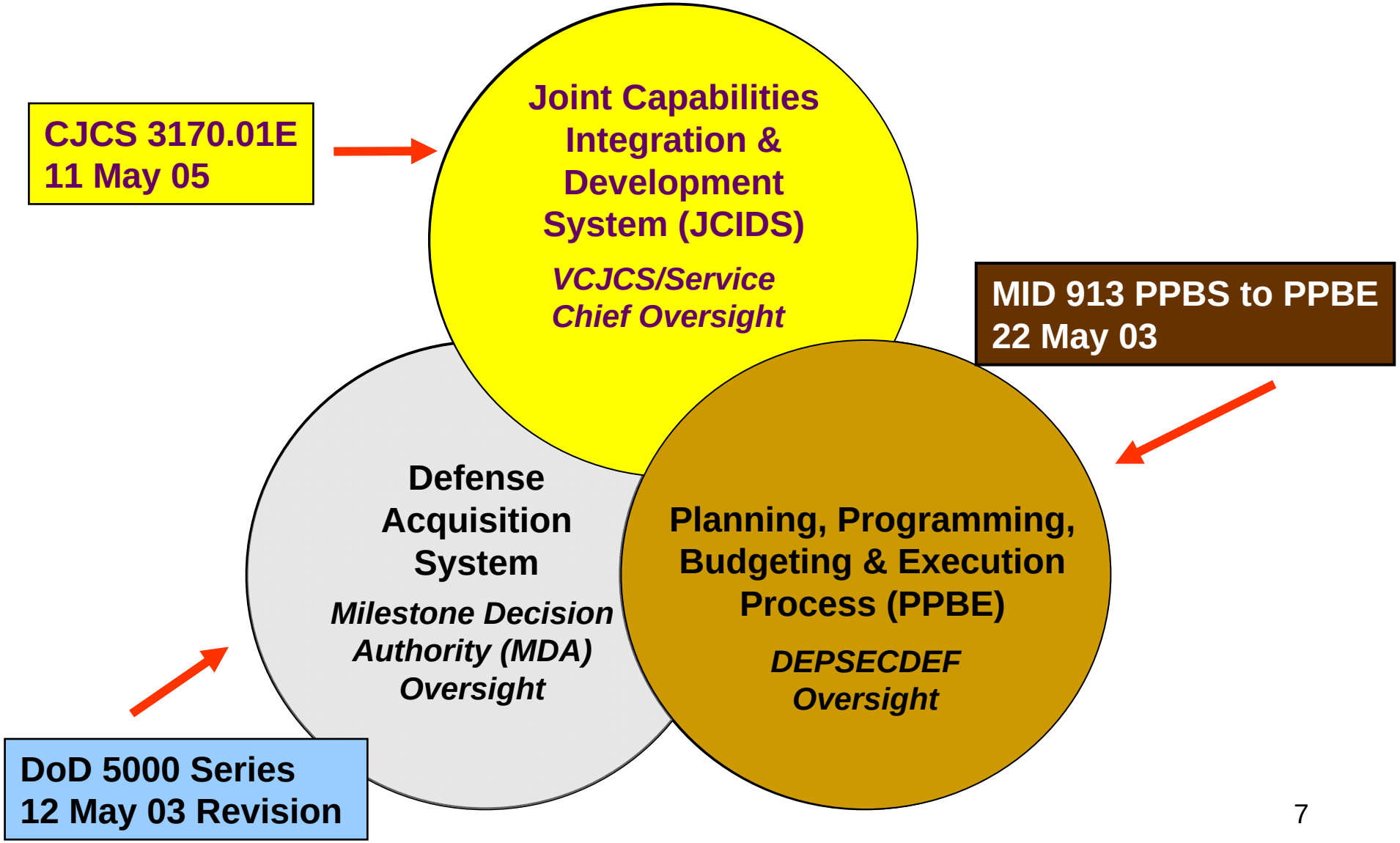

UNDER SECRETARY OF DEFENSE (ACQUISITION, TECHNOLOGY AND LOGISTICS)
Honorable Kenneth J. Krieg
697-7021 3E673
PRINCIPAL DEPUTY
Not Designated
DIR, HUMAN CAPITAL INITIATIVES
Mr. Frank Anderson, Jr.
FT BEL 695-3369
DIR, JOINT RAPID ACQUISITION CELL
Dr. Robert L. Bahnfuhr
5A128 692-5967
DIR, ACQUISITION RESOURCES & ANALYSIS
Dr. Nancy Spruill
3E1025 614-5737
DIR, INTERNATIONAL COOPERATION
Mr. Alfred Volkman
3A280 697-4172
DIR, SPECIAL PROGRAMS
Brig Gen Paul G. Schafer USAF
3D1064 697-1282
DIR, ADMINISTRATION
Ms. Julie Bigler
3D1039 697-2525
EXEC DIR, DEFENSE SCIENCE BOARD
Mr. Brian Hughes
3C553B 695-4157
DEPUTY UNDER SECRETARY OF DEFENSE (BUSINESS TRANSFORMATION)
Mr. Paul Brinkley
3E1034 695-6715
ADUSD STRATEGIC SOURCING & ACQUISITION PROCESSES
Mr. Mark Krzysko
2B137 614-3883
ADUSD BUSINESS INTEGRATION
Mrs. Beth McGrath
2B137 614-3883
ADUSD STRATEGIC PLANS & INITIATIVES
Mrs. Eileen Giglio
2B137 614-3883
DIR, BUSINESS TRANSFORMATION AGENCY
Mr. Paul Brinkley
Mr. Thomas Modly
CM3 967-3370
DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION & TECHNOLOGY)
Honorable James I. Finley
3C838 571-8023
DUSD, INDUSTRIAL POLICY
Mr. William Greenwalt
3C838 697-8051
DIR, SMALL BUSINESS PROGRAMS
Mr. Frank Ramos
201-12th St. S. 604-0157
DIR, SYSTEMS & SOFTWARE ENGINEERING
Mr. Mark D. Schaefer
3E130 695-7417
DIR, PORTFOLIO SYSTEMS ACQUISITION
Mr. David Ahern
3E130 697-8388
DIR, SYSTEMS OF SYSTEMS MANAGEMENT (Acting)
Hon James I. Finley
3C838 571-8023
DIR, DEFENSE PROCUREMENT & ACQUISITION POLICY
Mr. Shay Assad
3E1044 695-7145
PRESIDENT DEFENSE ACQUISITION UNIVERSITY
Mr. Frank Anderson, Jr.
FT BEL 805-3360
DIR, DEFENSE CONTRACT MANAGEMENT AGENCY (Acting)
Mr. Keith Ernst
8350 Walker LA 428-1700
ATSD NUCLEAR & CHEMICAL & BIOLOGICAL DEFENSE PROGRAMS (Acting)
Dr. Tom Hopkins
3C563 697-1771
PDATSD, CP, CTR & TREATY MANAGER (Acting)
Dr. Tom Hopkins
3C563 697-1771
DATSD, NUCLEAR MATTERS
Mr. Steve Henry
3C125 697-3968
SPECIAL ASSISTANT ATSD, CHEMICAL & BIOLOGICAL DEFENSE & CHEMICAL DEMILITARIZATION PROGRAMS
Mr. Jean Reed
3B253 693-9419
DIR, DEFENSE THREAT REDUCTION AGENCY
Dr. James Tegnelia
FT BEL 767-4883
DIRECTOR DEFENSE RESEARCH & ENGINEERING
Honorable John Young
3C838 697-5778
DUSD, SCIENCE & TECHNOLOGY
Dr. Andre Van Tilborg
1777 Nkst 9030 588-7443
DUSD, ADVANCED SYSTEMS & CONCEPTS
Mr. John Kubricky
3E144 697-6448
DUSD, LABORATORIES & BASIC SCIENCES
Dr. William Ross Jr.
3E114 693-4592
DUSD, INTERNATIONAL TECHNOLOGY SECURITY
Mr. Alan Haggerty
3E1034 697-9051
DIR, DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
Dr. Anthony Tether
VSB 883 696-3400
ADMIN, DEFENSE TECHNICAL INFORMATION CENTER
Mr. Paul Ryan
FT BEL 767-9100
DEPUTY UNDER SECRETARY OF DEFENSE (LOGISTICS & MATEREL READINESS)
Honorable Phillip J. Bell
1E918 697-5931
ADUSD, TRANSPORTATION POLICY
Mr. Earl Boyanton, Jr.
CON 210A 601-4461
ADUSD, MATERIEL READINESS & MAINTENANCE POLICY
Mr. David Pauling
5A714A 697-7988
ADUSD, SUPPLY CHAIN INTEGRATION
Mr. Alan Estevez
CON 210B 684-0698
ADUSD, PROGRAM SUPPORT
Mr. Gary Motsek
3E1039 693-5717
ADUSD, LOG & MATERIAL READINESS
Mr. James Hall
3C263 614-6327
DIR, DEFENSE LOGISTICS AGENCY
LTG Robert Dail
FT BEL 767-5200
DEPUTY UNDER SECRETARY OF DEFENSE (INSTALLATIONS & ENVIRONMENT)
Mr. Philip Grone
3C553 695-3890
ADUSD, INSTALLATIONS
Mr. Chuck Williams
5C646 571-8078
ADUSD, ENVIRONMENT, SAFETY & OCCUPATIONAL HEALTH
Mr. Alex Beehler
5C646 697-9688
DIR, BUSINESS ENTERPRISE INTEGRATION
Ms. Lora Muchmore
400 AND 604-4625
OFFICE OF ECONOMIC ADJUSTMENT
Mr. Patrick O'Brien
400 AND 604-6020
DIR, TEST RESOURCE MANAGEMENT CENTER
Dr. John Foulkes
N. Beauregard 681-5236
DIR, MISSILE DEFENSE AGENCY
LtGen Henry Obering III, USAF
NAVY ANNEX 695-6344
DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA
December 19, 2006

PORTFOLIO SYSTEMS ACQUISITION (PSA)

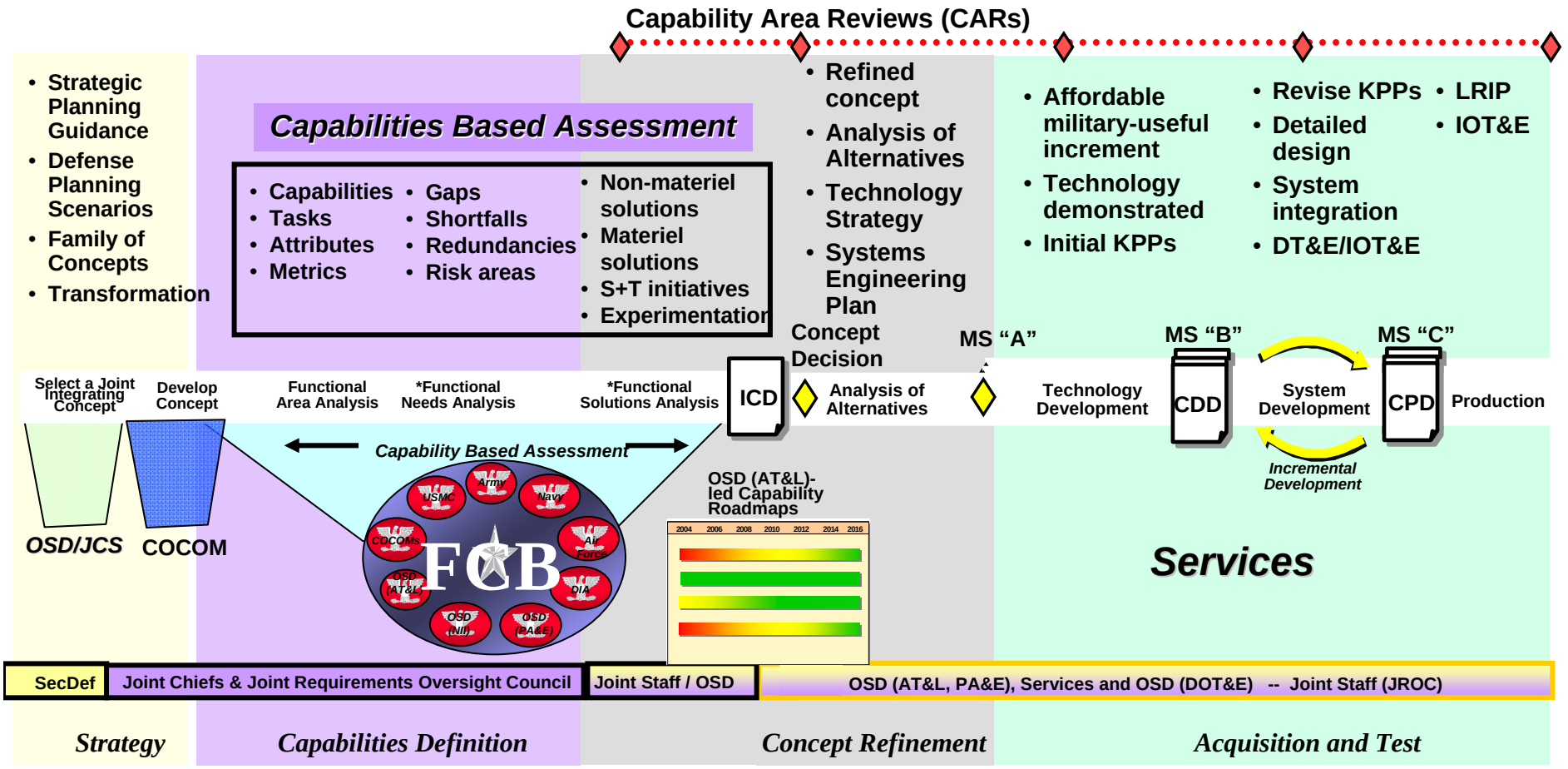


DoD Business Processes

DoD Business Processes



DoD End-to-End Capabilities-Based Process



USD (AT&L) Goals

Goal 1 - High Performing, Agile, and Ethical Workforce

Goal 2 - Strategic and Tactical Acquisition Excellence

Goal 3 - Focused Technology to Meet Warfighting Needs

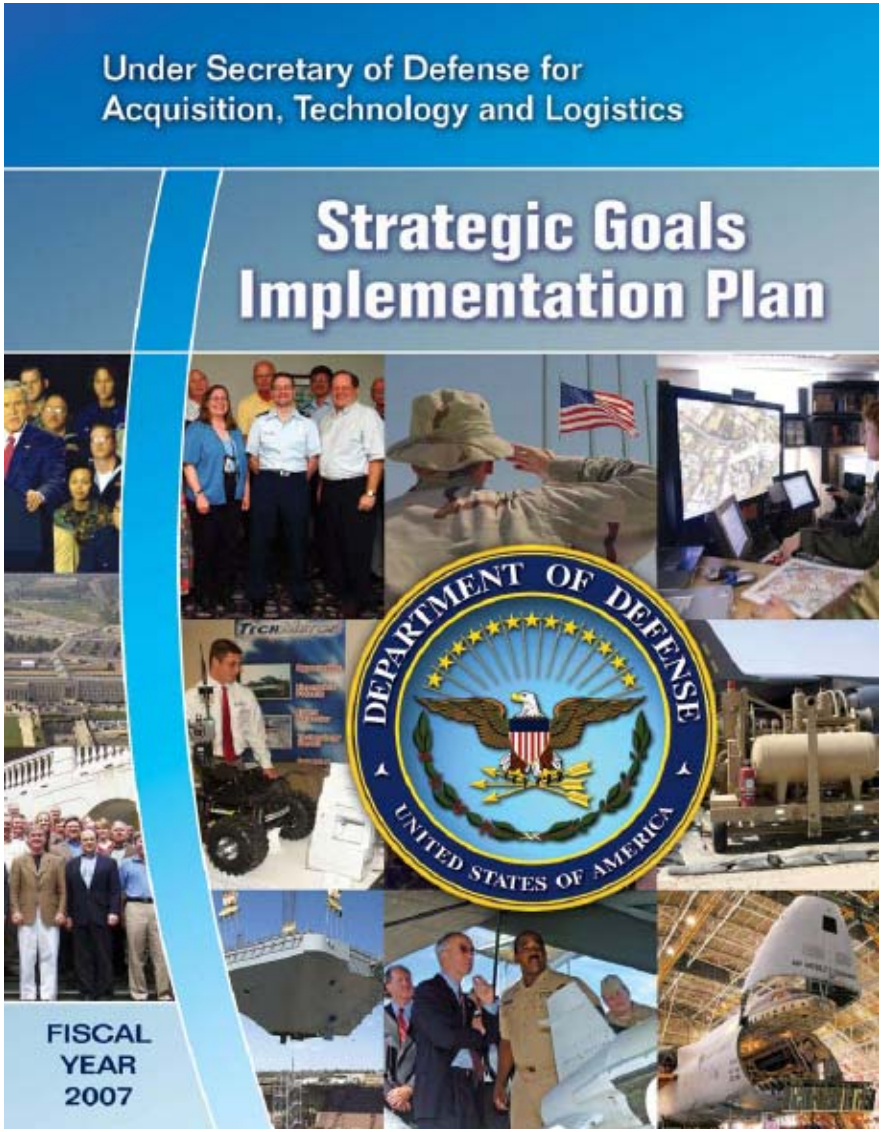
Goal 4 - Cost-effective Joint Logistics Support for the Warfighter

Goal 5 - Reliable and Cost-effective Industrial Capabilities Sufficient to Meet Strategic Objectives

Goal 6 - Improved Governance and Decision Processes

Goal 7 – Capable, Efficient, and Cost-Effective Installations

http://www.acq.osd.mil/goals/



Goal 2: Strategic and Tactical Acquisition Excellence

2.1 Acquisition agenda aligned with the Department's core values, policy objectives, joint capability needs, and available resources to attain best value solutions.

Success:

- We establish and institutionalize a concept decision/time defined acquisition process which brings together the requirements, acquisition, and programming/budgeting communities. This ensures we start affordable programs, at the right time, for the right capability with predictable performance.
- We establish an operating tempo that synchronizes AT&L's acquisition decision and oversight processes with the defense enterprise. This ensures the Department is providing consistent and coherent tactical and strategic direction.

2.2 Risk, outcomes, schedule, and cost balanced when planning and adjusting portfolios, programs, and procurements.

Success:

- We establish and institutionalize the EOA process. This ensures a proper balance of cost, schedule, performance, risk and technological maturity is established for identified capability solutions to guide the CD/TD processes.
- We establish and institutionalize Small Business Program Initiatives that are cross cutting to the Department. This improves program and procurement alignment with Department policy objectives, joint capability and balanced portfolios.
- We establish and institutionalize IBR process to adjust portfolios, programs and procurements to align with the department's policy objectives, joint capability needs and available resources. This supports the work of the Joint Capability Portfolio Managers.

Goal 2: Strategic and Tactical Acquisition Excellence

2.3 Acquisition execution improved across the total life cycle through the use of sound business and technical practices.

Success:

- We have revitalized DoD Systems Engineering, Software Engineering, and Developmental Test and Evaluation competencies, by establishing these processes as core competencies within DoD.
- We have implemented a department-wide Risk Based Source Selection methodology that properly quantifies risk, and ensures a comprehensive risk assessment in preparation for the source selection process.
- We have restructured and institutionalized the DAES process to better provide value-added oversight of selected programs. This enables the surfacing of program execution problems as soon as possible, thus allowing early and effective resolution.
- We have restructured and institutionalized the DAB process to better provide value-added oversight and coherent strategic direction in an effective, efficient, and timely manner.
- We have ensured the appropriate and policy-compliant use of award/incentive fees, better motivating industry to execute contractually compliant programs and services.
- We have established funding stability via the use of capital accounts.

2.4 Customer demands and warfighter Joint Urgent Operational Needs (JUON) promptly and efficiently fulfilled.

Success:

- We have refined the Tri-Chair gatekeeper function to ensure the most appropriate acquisition path and processes based on urgency of need, technological maturity, requirements stability and affordability are consistent with life cycle support initiatives.
- We have created a Strategic Sourcing for acquisition policy, allowing effective and economic use of DoD's significant leverage as an "enterprise buyer" of services.

2.5 Capability fielded to meet warfighter needs.

Success:

- We have established leading indicators for Acquisition Program Baselines (APBs), ensuring programs delivered to the warfighter provide predictable performance.

Goal 3: Focused Technology to Meet Warfighting Needs

3.1 Investments deliver innovative, product-ready technology.

Success:

- We have driven the DoD research and engineering investment to reduce risk in programs, and to take advantage of technology opportunities, to affordably and rapidly add military capability and address warfighting gaps.

3.2 Joint and Interoperable is the way of doing business.

Success:

- We constantly review investments of taxpayer dollars to ensure that the driving imperative is to deliver value for the DoD enterprise and the Combat Commander who must synchronize military might.

3.3 Vibrant S&T program which delivers results and attracts highly capable people.

Success:

- We ensure the future of this nation through an active and aggressive research and engineering portfolio which attracts the best and brightest in America—scientists, engineers, students.

3.4 S&T processes deliver maximum value for the tax dollar.

Success:

- We take personal responsibility for boundary-less coordination of research and engineering investments and ruthlessly refine our processes to eliminate any action that does not support producing technology that provides warfighting advantage.

Goal 5: Reliable and Cost-Effective Industrial Capabilities Sufficient to Meet Strategic Objectives

5.1 Effects of DoD policy and program decisions on the industrial base, and the extent to which industry decisions limit or expand DoD options, understood.

Success:

- We established baseline criteria from which to evaluate and define desirable attributes for the Defense industrial base, and develop methodology to assess industry progress towards desirable attributes.

5.2 DoD research and development, acquisition, and logistics decisions expand and sustain the industrial base to encourage competition and innovation for essential industrial and technological capabilities.

Success:

- We have identified and implemented policies to prevent DoD contractors from inappropriately favoring in-house capabilities.
- We have engaged with industry for targeted improvement in the DoD industrial base workforce.
- We have encouraged participation of non-traditional suppliers, including small business, in DoD procurement.
- We have maintained a competitive environment within industry segments supporting DoD acquisition of services.

5.3 Statutory processes and decisions leveraged to enable a capable, competitive, and reliable industrial base.

Success:

- We have ensured that DPAS decisions provide materials to the most important users, first.
- We have leveraged the benefits of globalization to increase competition and enhance access to global markets.

5.4 Contract finance and profit policies drive desired results.

Success:

- We have promoted DoD industry industrial/technological capability improvements.
- We have improved results of contract profit and award/incentive fee policies.

Initiatives For Strategic and Tactical Acquisition Excellence

STRATEGIC
"Big A"

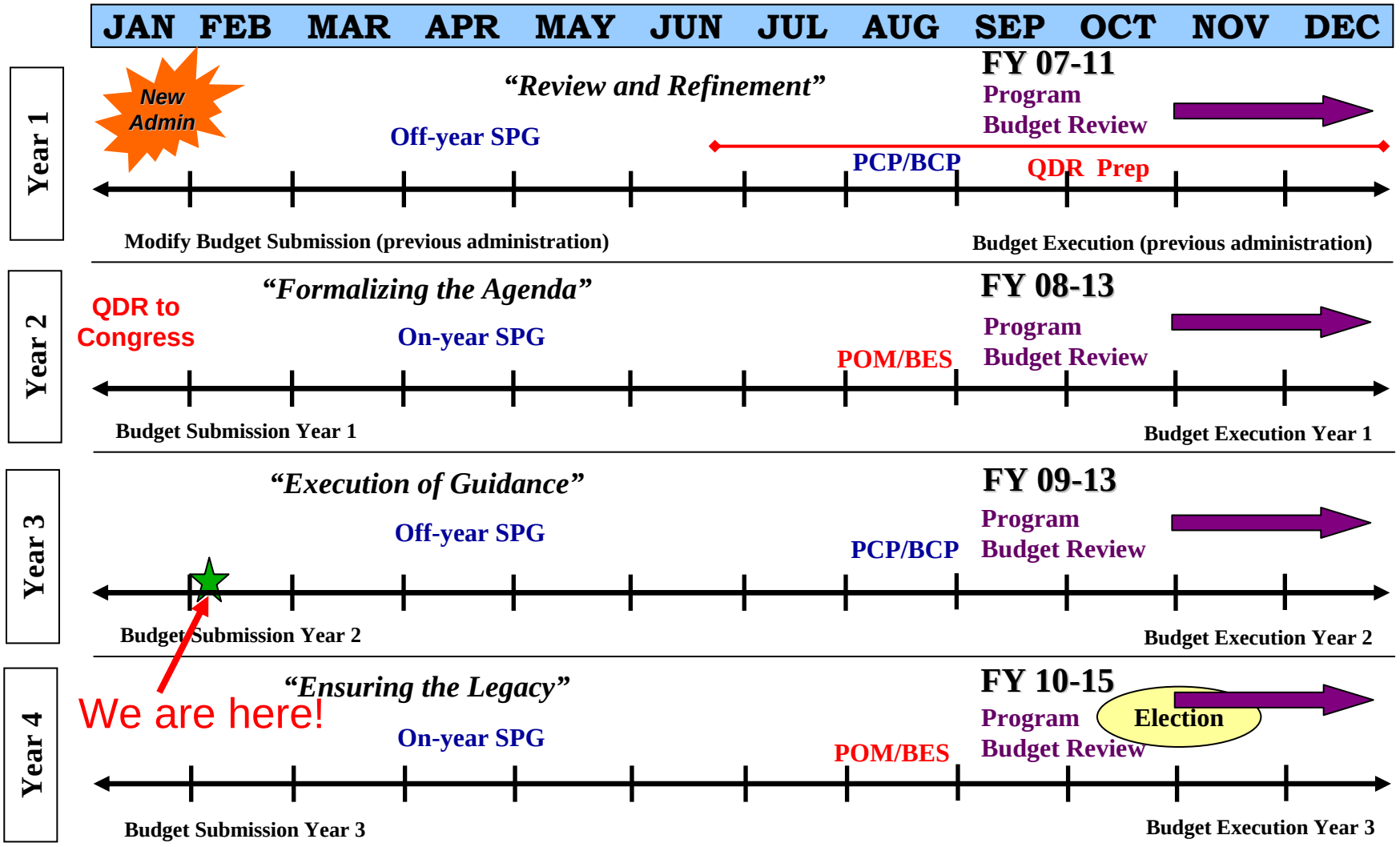
"Little A"
TACTICAL

OBJECTIVES	INITIATIVES
Making Decisions that Balance the Trade-Space • Affordable, Feasible Investments	• Portfolio Management • Tri-Chair Concept Decision / Time-Defined Acquisition • Evaluation of Alternatives • Synchronize Existing Processes • Tri-Chair Investment Balance Reviews
Starting Programs Right – Improved, Up-Front Planning – Awareness of Risk / Improved Source Selection – More Responsive Acquisition Solutions	• Risk-Based Source Selection • Small Business Innovative Research • Acquisition of Services Policy • Systems Engineering Excellence • Award Fee and Incentives
Process efficiency – Tailored, agile, transparent	• DAB / OIPT Process Optimization • Common Data / DAMIR • Restructured DAES
Program Stability – No Downstream Surprises – Issue Awareness	• Program Baseline Assurance • Capital Accounts

Improving the Full Range of Acquisition Execution

Budget Trends

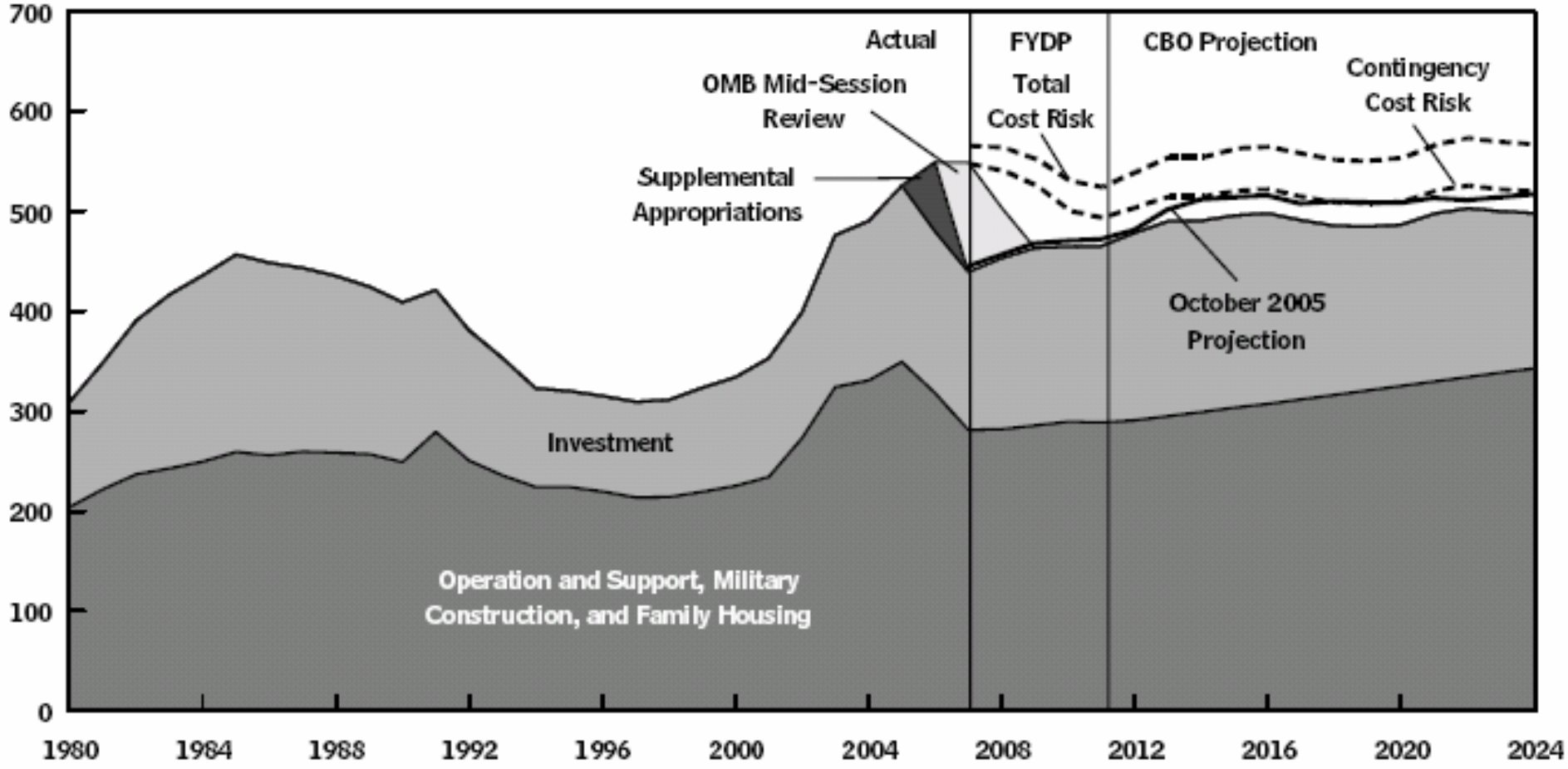
Planning, Programming, Budgeting, and Execution



4 Administration Years with 2-year PPBE Cycle

Past and Projected Resources for Defense

(Billions of 2007 dollars)

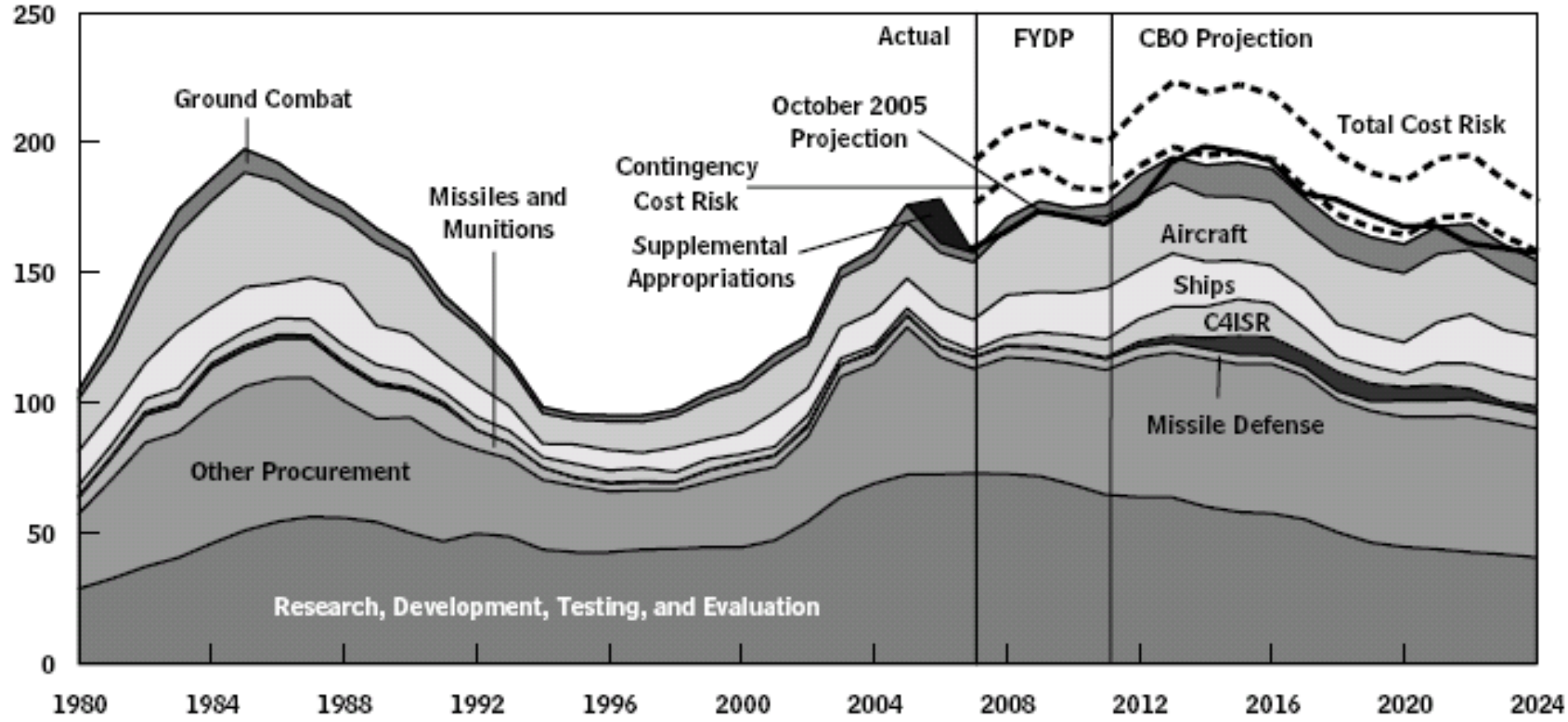


Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; OMB = Office of Management and Budget.

Past and Projected Resources for Investment

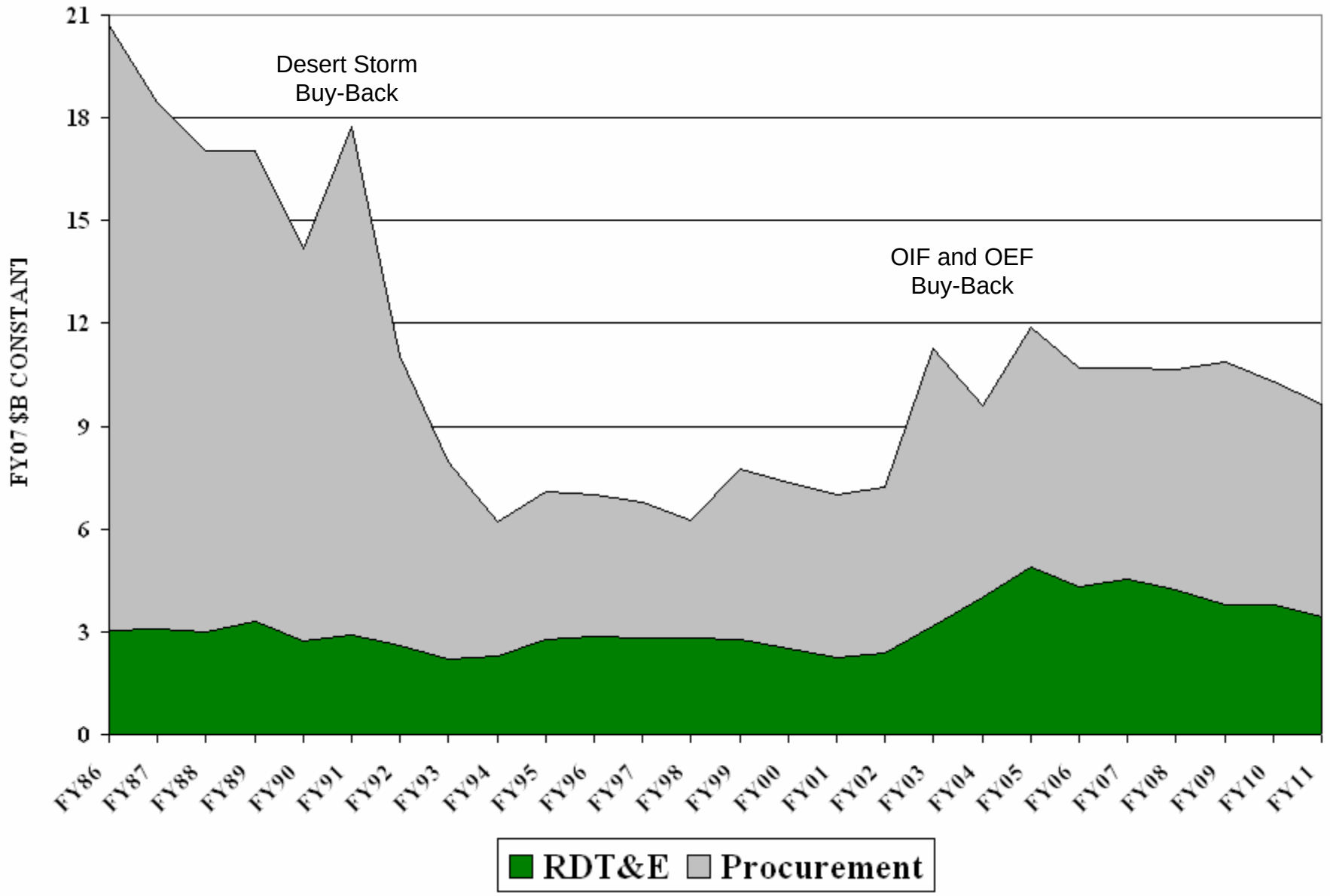
(Billions of 2007 dollars)



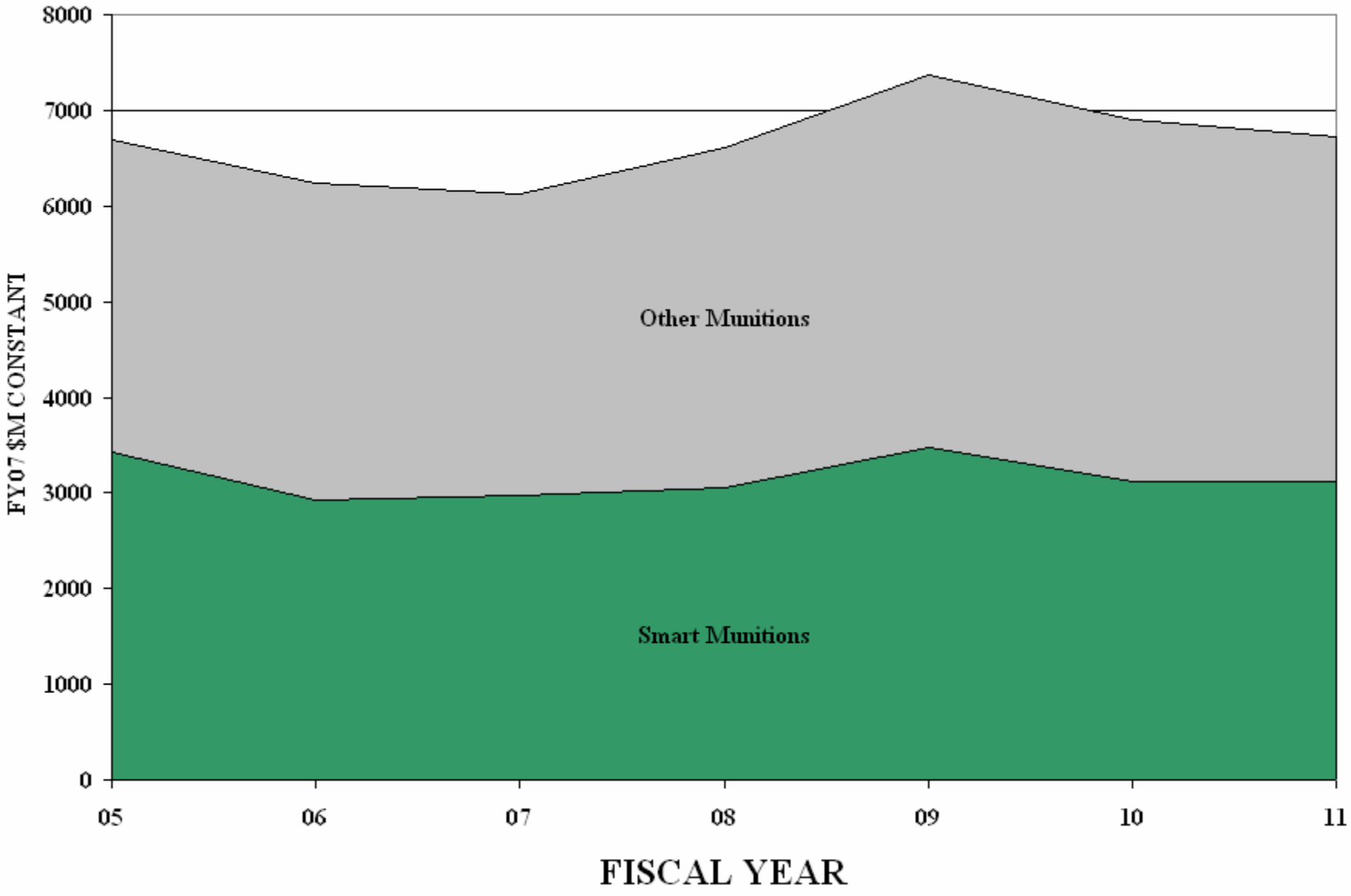
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; C4ISR = command, control, communications, computers, intelligence, surveillance, and reconnaissance.

DoD Munitions RDT&E and Procurement



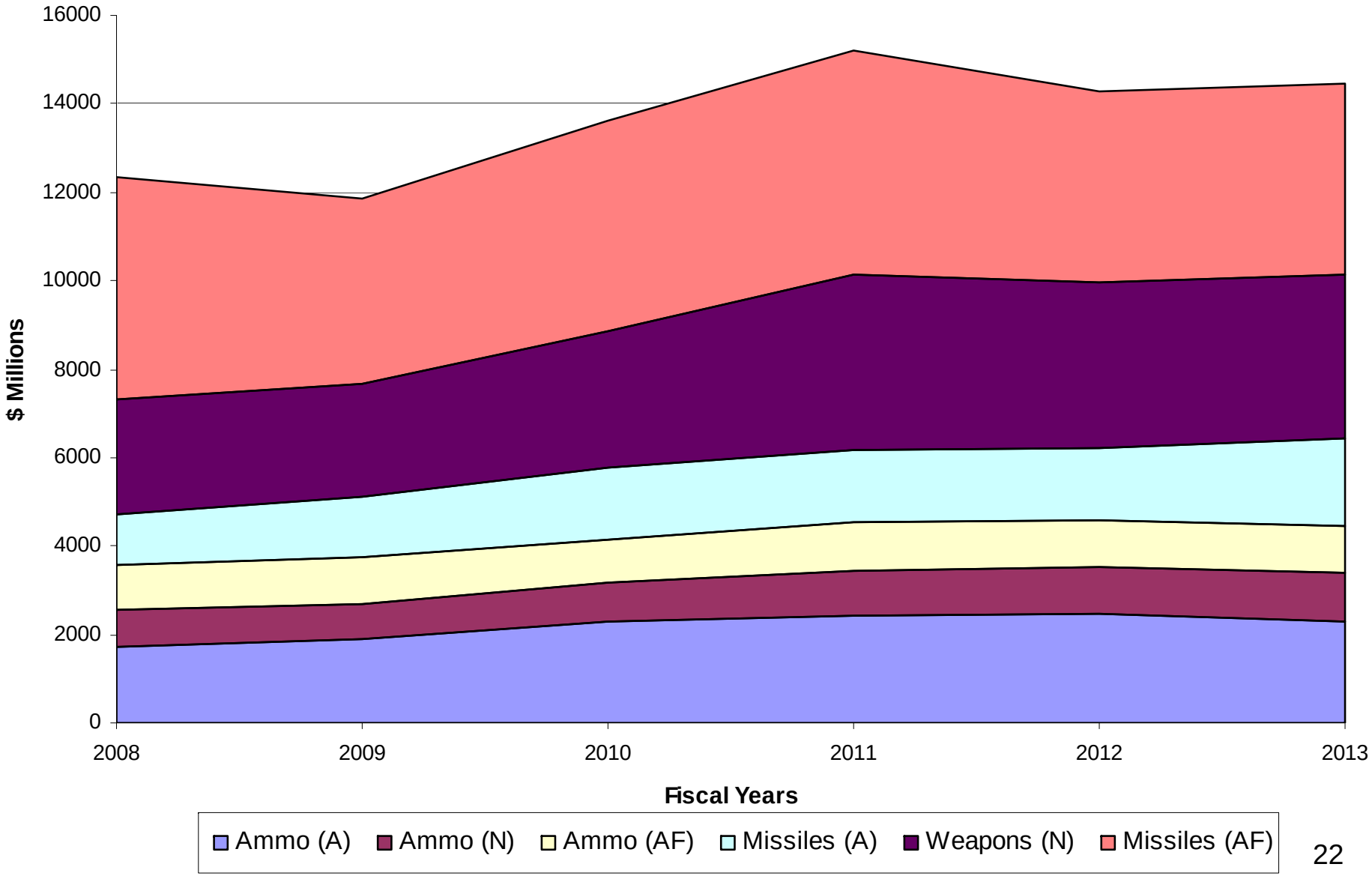
Smart Munitions vs. Other Munitions Procurement Trend



FY 2008 President's Budget
Munitions Appropriations

	2007	2008	2009	2010	2011	2012	2013
Ammo (A)	1,903	2,191	2,405	2,414	2,327	2,452	2,532
Ammo (N)	790	760	1,101	1,175	1,216	1,134	1,272
Ammo (AF)	1,072	869	913	914	931	949	969
Missiles (A)	1,350	1,645	1,695	1,621	1,560	1,696	1,881
Missiles (AF)	4,204	5,131	5,614	3,859	3,710	4,035	4,335
Weapons (N)	2,555	3,084	3,626	4,054	3,941	3,932	3,777
($ M)	11,874	13,680	15,354	14,037	13,685	14,198	14,766

FY 2008 President's Budget
Munitions Appropriations



Munitions Interest Areas

DoD Ordnance Technology Consortium

DoD Ordnance Laboratory Center

National Warheads and Energetics Consortium

Task Order Sub Agreements
CRADAs
DEAs
Contracts
Test Service Agreements

- OUSD (AT&L) DS/LW&M
- Department of The Army
- Department of the Navy
- Department of the Air Force
- Special Operations Command
- Defense Advanced Research Project Agency
- Defense Threat Reduction Agency
- Department of Energy
- Other Agencies and Departments

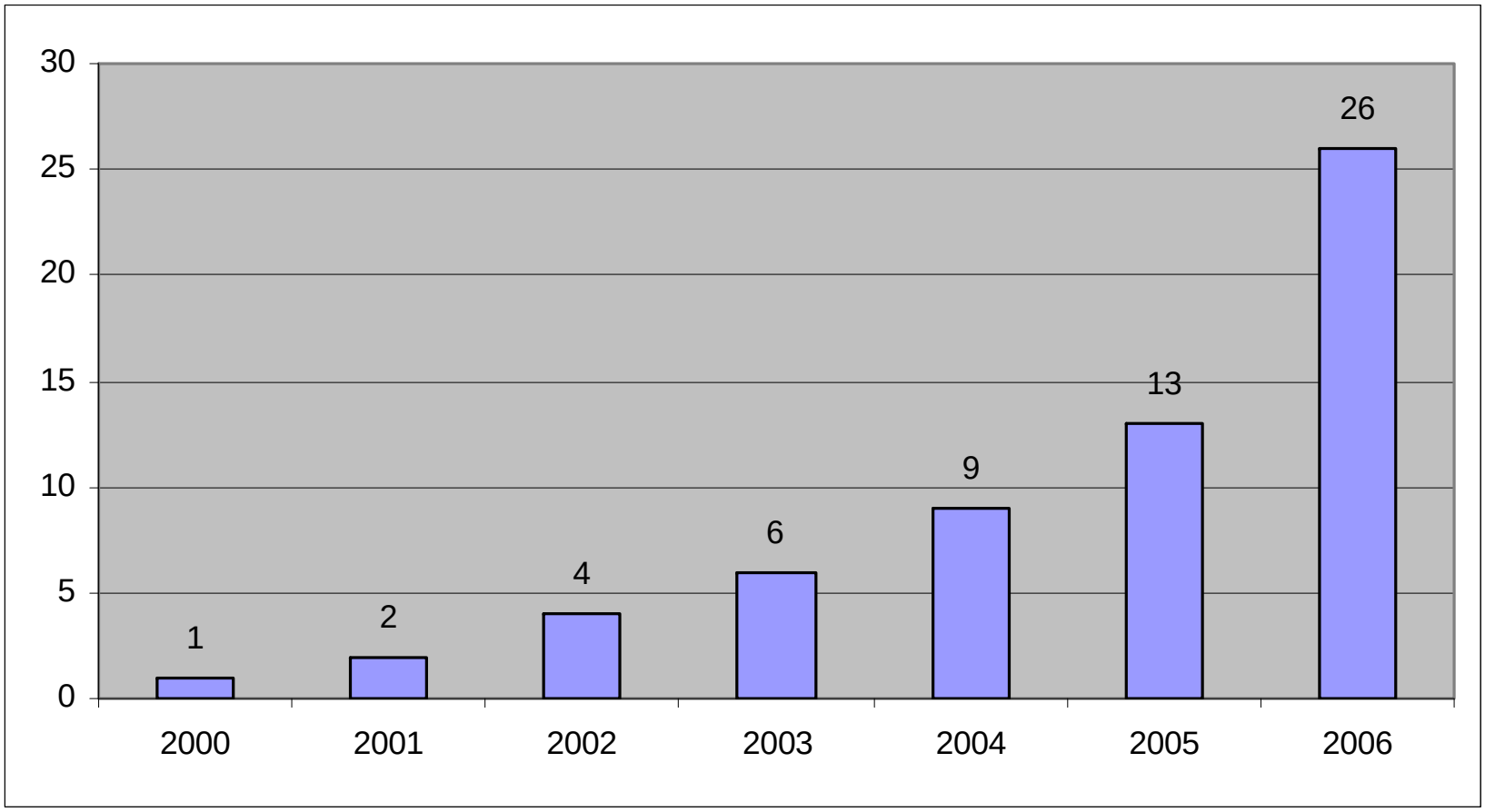
- Small Businesses
- Defense Contractors
- Academic Institutions
- Non-Profit Organizations
- Not-for-Profits Organizations

DoD and NWEC… Partnering to Leverage Capabilities and Investment

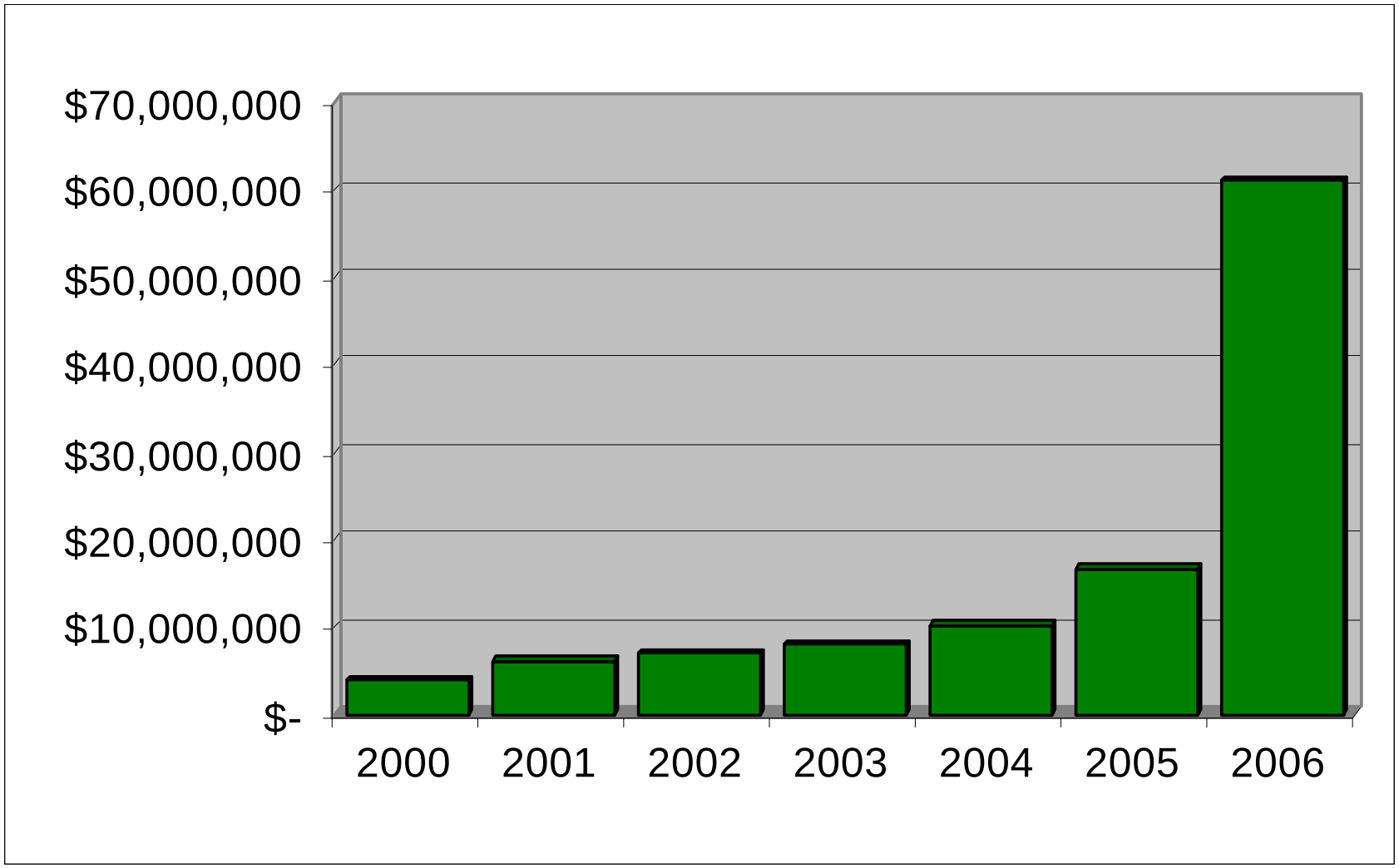
DOTC VISION

An integration of Government, Industry, and Academia into a single enterprise executing co-funded initiatives, sharing and developing goals and objectives, resources and assets, and utilizing existing personnel, facilities and equipment.

Number of DOTC Joint Projects



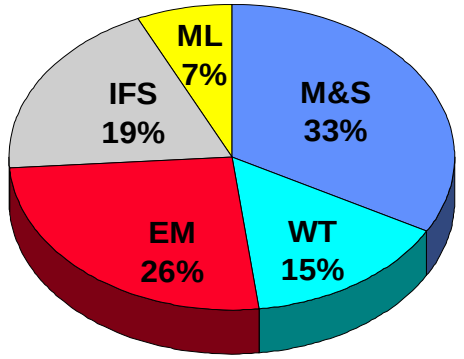
DOTC Resources



Joint DoD/DOE Munitions Program

Scope

- Approx. 50 projects at DOE NW labs in 10 Technology Coordinating Groups encompassing 5 focus areas:
  - **Modeling & Simulation**
  - **Energetic Materials**
  - **Initiation, Fuzing, & Sensors**
  - **Warhead Tech**
  - **Munitions Lifecycle**
- FY07 total funding ~$45M – DoD & DOE combined



FY07 Funding

Recent Accomplishments

- AFRL is transitioning multiphase blast explosive and composite case to Focused Lethality Munition JCTD
- Mini-SAR prototype with 5x reduction in size/cost successfully flown in UAV; technology is transitioning to industry
- Stockpile data analysis tool used by MC for TOW annual assessment
- Robotic demil system proven at DAC for Aerial Denial Artillery Munitions
- New IHE (LLM-105) transitioning to NSWC-Indian Head for production

DOTC is Transition Vehicle

Predictive Modeling and Simulation (M&S)

Purpose

- Establish DoD M&S capability focused on munitions safety and performance
- Enable system level, physics/chemistry-based design

Approach

- Build initial capability to support IM
  - Address violence of response of large rocket motors to IM insults
  - Start with bullet/fragment impact then address cook-off
  - Tools applicable to all munitions
- Address multiphase blast munitions for urban terrain
- Build Users Group

Structure

- M&S Initiative comprised of three elements
  - Joint DoD/DOE Munitions Technology Program
  - Multiphase flow, target interaction portfolio (DoD HPCMO)
  - IM Hazards Project Arrangement with UK

DOTC is Transition Vehicle

Insensitive Munitions (IM) Update

- IM Strategic Planning
  - Allows the PEOs and PMs to manage their IM investments on a portfolio basis while informing OSD and the JROC on the IM posture of the Department's entire munitions portfolio
  - After two submissions, improvement has been noted (Small Diameter Bomb and M829A3 are IM compliant); however, over 80% of FY07 procurements remain non-compliant. Lack of technology is the primary roadblock to achieving compliance.
  - Plan submission moving to a two-year cycle beginning in FY08

- Joint Insensitive Munitions Technology Program
  - A robust 6.2/6.3 S&T program focused on putting demonstrated IM technology into the hands of PEOs and PMs,
  - Total FY08-13 Funding is $202M
  - Program is focused on developing and demonstrating enabling technologies in 5 munition areas – High Performance Rocket Propulsion, Minimum Smoke Rocket Propulsion, Blast/Fragmentation Warheads, Anti-Armor Warheads, Large Caliber Gun Propulsion

DOTC is Mechanism for Engaging Industry

Focused Lethality Munition (FLM)
Joint Capability Technology Demonstration

- Technical Approach
  - Composite warhead case filled w/Multiphase Blast Explosive (MBX)
  - Modeling and simulation being used to characterize design in environments
- SDB I Low Collateral Damage Variant
  - Integrated w/ SDB I common airframe components
  - Limited far-field lethality (no warhead case frags)
  - For prosecution of urban targets
- Joint Capability Technology Demonstration (JCTD) Initiated in FY06
  - Contract awarded to Boeing on 31 Aug 06
  - JCTD hinges on AFRL technology development
  - Prototypes being tested at AFRL/Eglin AFB

New Technology from Joint DoD/DOE Munitions Program

- **Composite Case Warhead**
- **Multiphase Blast Explosive**

Emerging Contaminants

- Emerging contaminants (ECs) are chemicals or materials that are characterized by:
  - A perceived or real threat to human health or environment
  - A lack of published health standards or a standard that is evolving or being reevaluated
  - A contaminant may also be "emerging" because of the discovery of a new source, a new pathway to humans, or a new detection method or technology
- DoD is putting in place a process to constantly identify and assess the impacts of ECs on people, the environment, and on the DoD mission.
- Risk management options will be developed for those ECs with significant potential impacts on people or the DoD mission.

DoD Lead is ODUSD(Installations & Environment)

DoD Emerging Contaminants Action List

- Materials that have been assessed and judged to have a significant potential impact on people or the DoD mission
  - Perchlorate
  - Trichloroethylene
  - RDX
  - Naphthalene
  - Hexavalent chromium

- "Watch List" includes tungsten, nanomaterials

More information at: www.dodmeritinfo.net

Standardization

ASSIST Online

- A robust, comprehensive web site providing access to current information associated with military and federal specifications and standards in the management of the Defense Standardization Program.
- Provides public access to standardization documents over the Internet.

Register at: http://assist.daps.dla.mil/online/start

Questions?

Back-Up Charts

DoD Fuze IPT

- Fuze Technology
  - Sponsored an OSD Fuze Technology Investment Issue for PR07 & POM 08
  - Failed on both attempts
- Fuze Acquisition Assessment
  - Completed an assessment of the projected health of the NTIB
  - Developed a Fuze Acquisition Database and Analysis Tool
  - Significant Trends noted:
    - Consolidation expected, some financial risk expected, some sustained by single program, competing for legacy work, few contractors capable of developing and producing wide range of advanced fuzes.
- Industrial Base
  - Completed DCMA study of 12 sub-tier suppliers
  - Observations Noted:
    - Majority are sole source suppliers, no critical single point failures, several outsourcing assembly, fuze components account for <10% of their business base, diminished R&D funding
- Briefing to the DUSD (Industrial Policy)
- Hard Target Fuzing
  - Joint Hard Target Penetration Fuzing Technology Exchange (November 2006)
  - Secured $1.9M Joint Quick Reaction Funding (QRF) Proposal for FMU-152 Characterization Testing against harder targets