



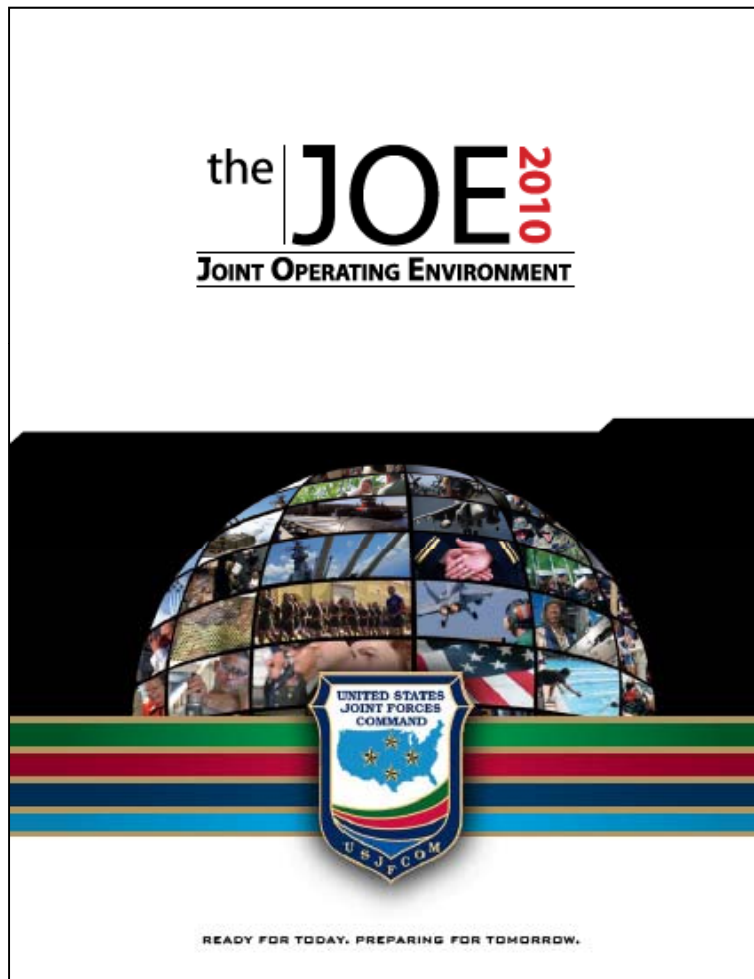
Shaping the Department's S&T Strategy

21 June 2011

**The Honorable Zachary J. Lemnios
Assistant Secretary of Defense for
Research and Engineering**



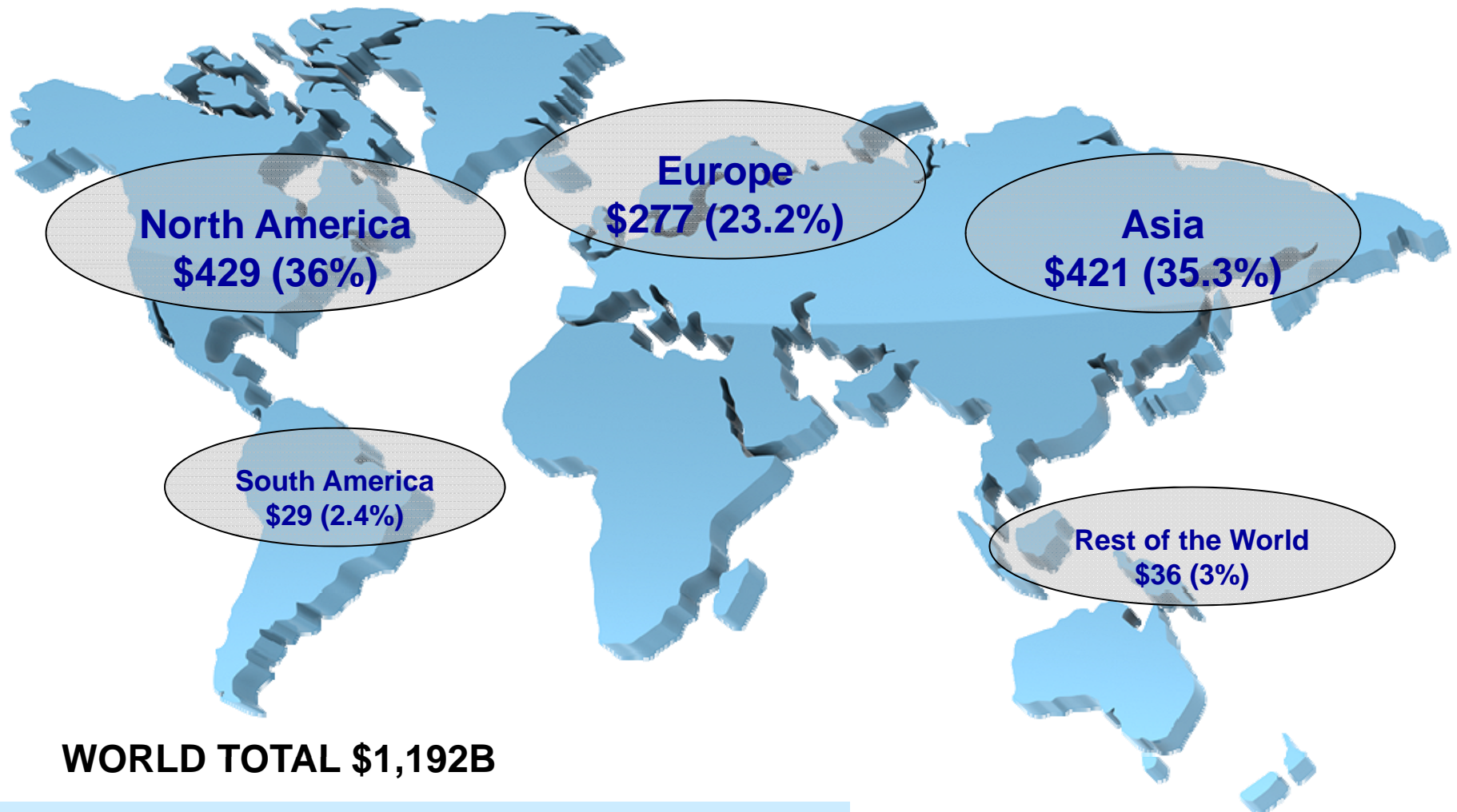
Global Challenges and Trends



- **Shifting Global Demographics**
- **Globalization shifts**
- **Energy**
- **Climate change & natural disasters**
- **Cyber as a new domain**
- **Challenges to existing state structures**
- **WMD proliferation**



Globalization of R&D

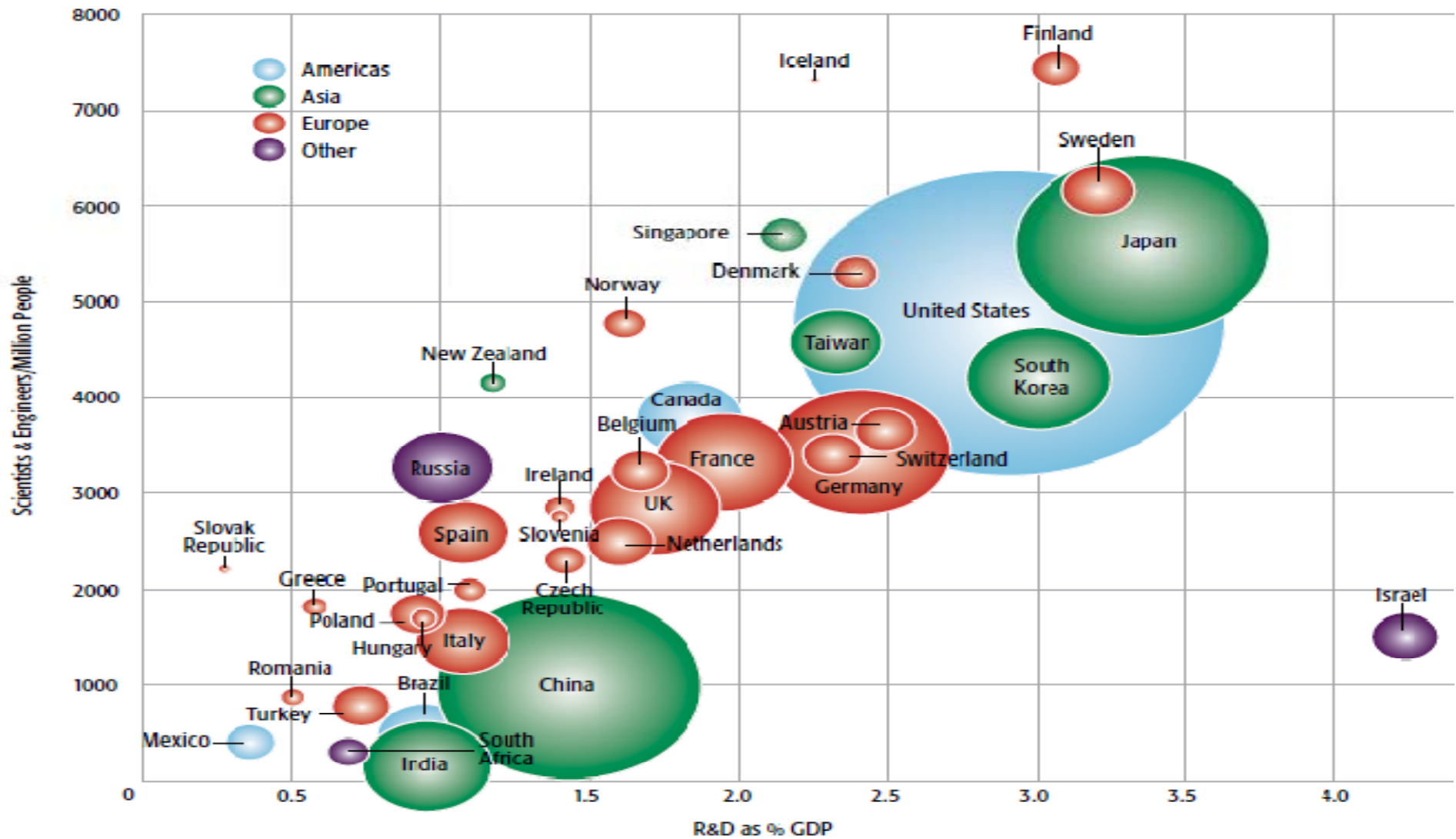


WORLD TOTAL \$1,192B

Source: www.rdmag.com "2011 Global R&D Funding Forecast" - Battelle



World R&D Trends: A Global Shift



Source: Battelle, R&D Magazine, OECD, IMF, CIA



Guidance Roadmap



Target Affordability and Control Cost Growth

- Mandate affordability as a requirement
 - At Milestone A set affordability target as a Key Performance Parameter

Improve Tradecraft in Services Acquisition

- Create a senior manager for acquisition of services in each component, following the Air Force's example
- Adopt uniform taxonomy for different types of services

- Target Affordability and Control Cost Growth
- Incentivize Productivity & Innovation in Industry
- Promote Real Competition
- Improve Tradecraft in Service Acquisition
- Reduce Non-Productive Processes and Bureaucracy

Incentivize

- Re
- ex
- In
- us
- de
- Ac
- Ex
- pi
- Re
- de

Promote

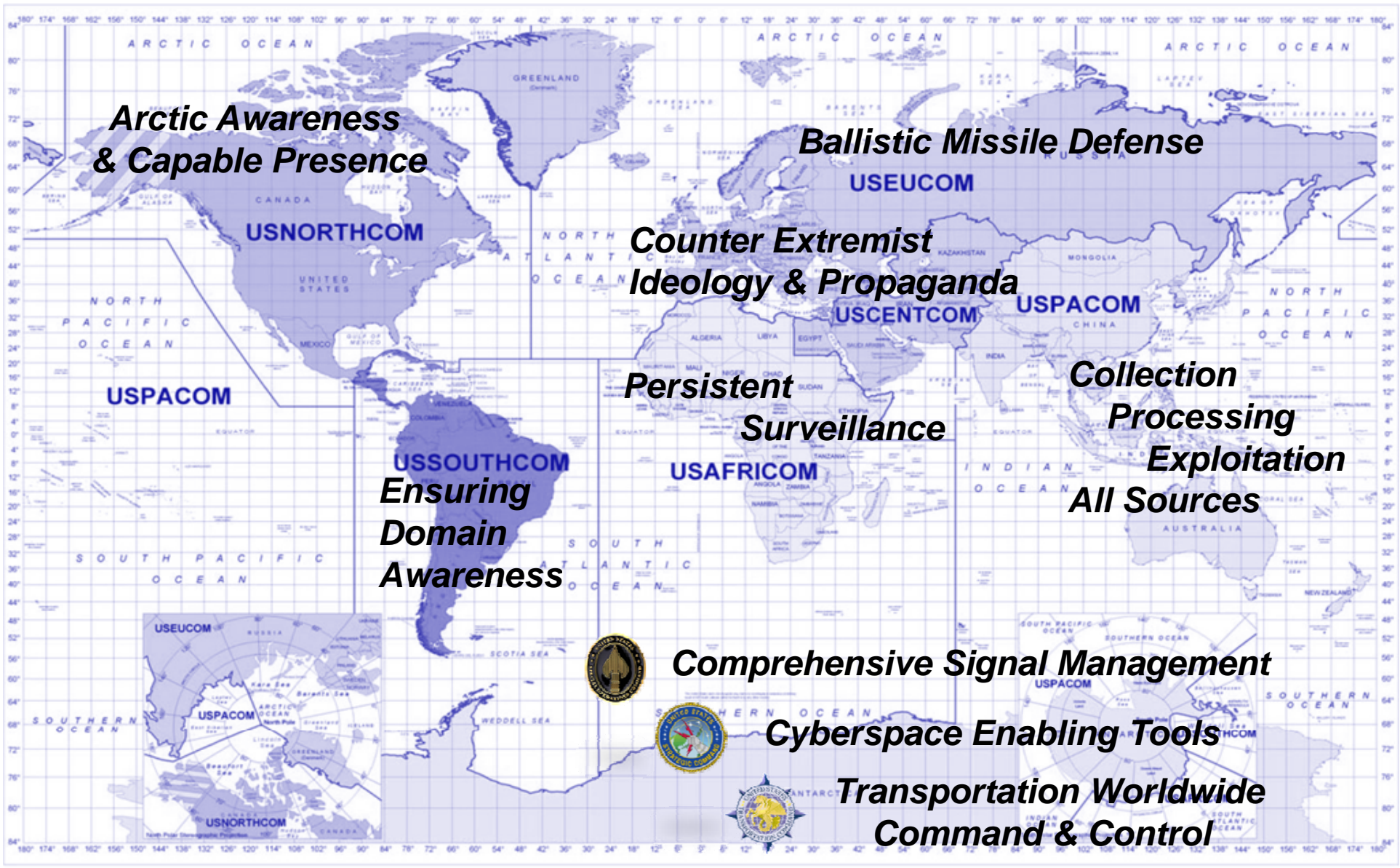
- Pr
- Re

- Require open system architectures and set rules for acquisition of technical data rights
- Increase dynamic small business role in defense marketplace competition

n
 and prevent
 rch to support
 re-compete of
 e contracts for
 ontain cost
 ces
 sary to support
 o significant
 essional
 mplementary
 (FPRRs) to

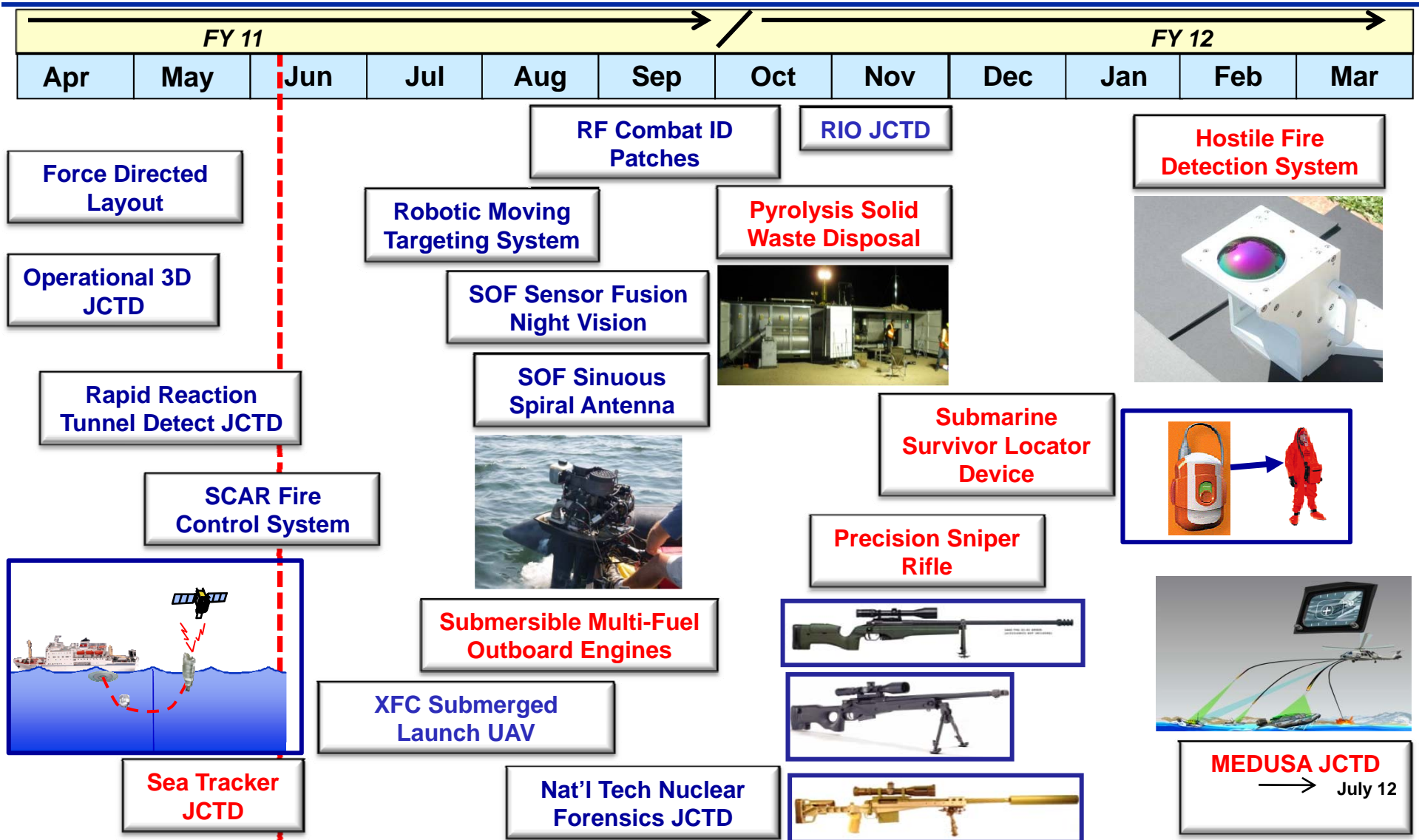


Support to Combatant Commanders





Continuing the Push for Capabilities to the Fight





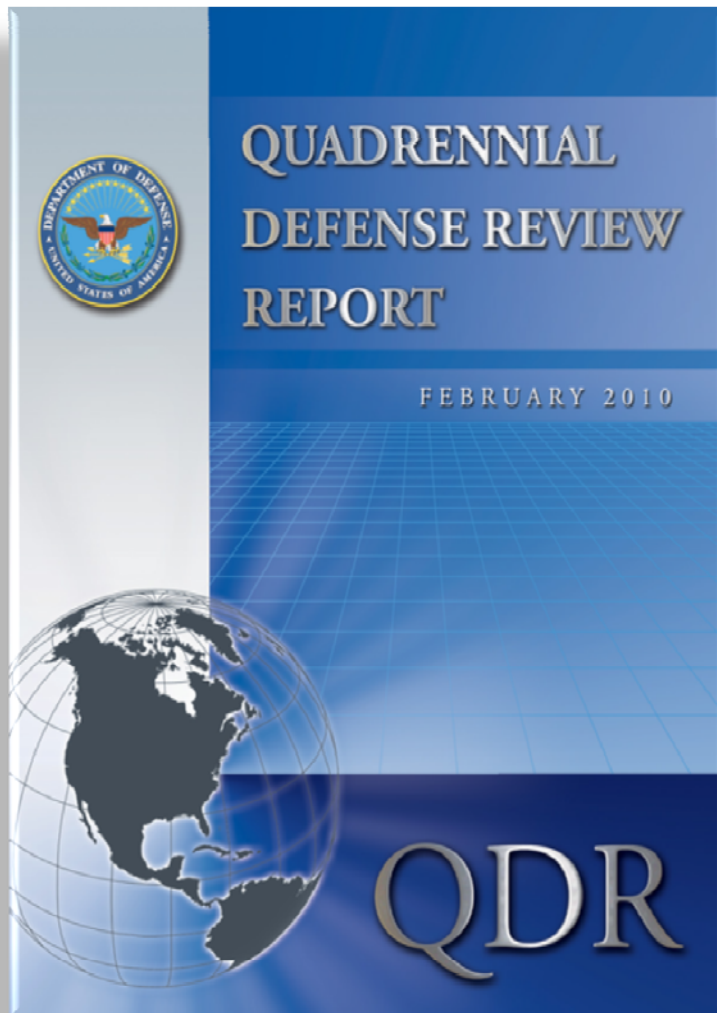
Imperatives



- 1. Accelerate delivery of technical capabilities to win the current fight.**
- 2. Prepare for an uncertain future.**
- 3. Reduce the cost, acquisition time and risk of our major defense acquisition programs.**
- 4. Develop world class science, technology, engineering, and mathematics capabilities for the DoD and the Nation.**



Quadrennial Defense Review Missions Require New Capabilities



1. **Defend the United States and Support Civil Authorities at Home**
2. **Succeed in Counterinsurgency, Stability, and Counterterrorist Operations**
3. **Build the Security Capacity of Partner States**
4. **Deter and Defeat Aggression in Anti-Access Environments**
5. **Prevent Proliferation and Counter Weapons of Mass Destruction**
6. **Operate Effectively in Cyberspace.**



Capability Priorities for FY13-17



Complex Threats

**Electronic Warfare /
Electronic Protection**

**Cyber Science and
Technology**

**Counter Weapons of
Mass Destruction**

Force Multipliers

Data-to-Decisions

Autonomy

**Engineered Resilient
Systems**

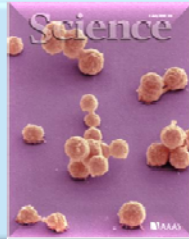
Human Systems



High Interest Basic Science Areas



Synthetic Biology



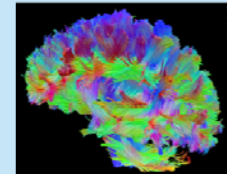
Human Behavior Modeling



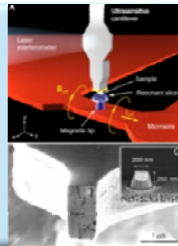
Novel Engineered Materials



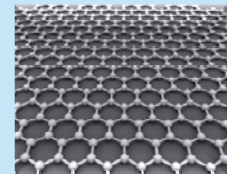
Cognitive Neuroscience



Quantum Information Science



Nanoscience



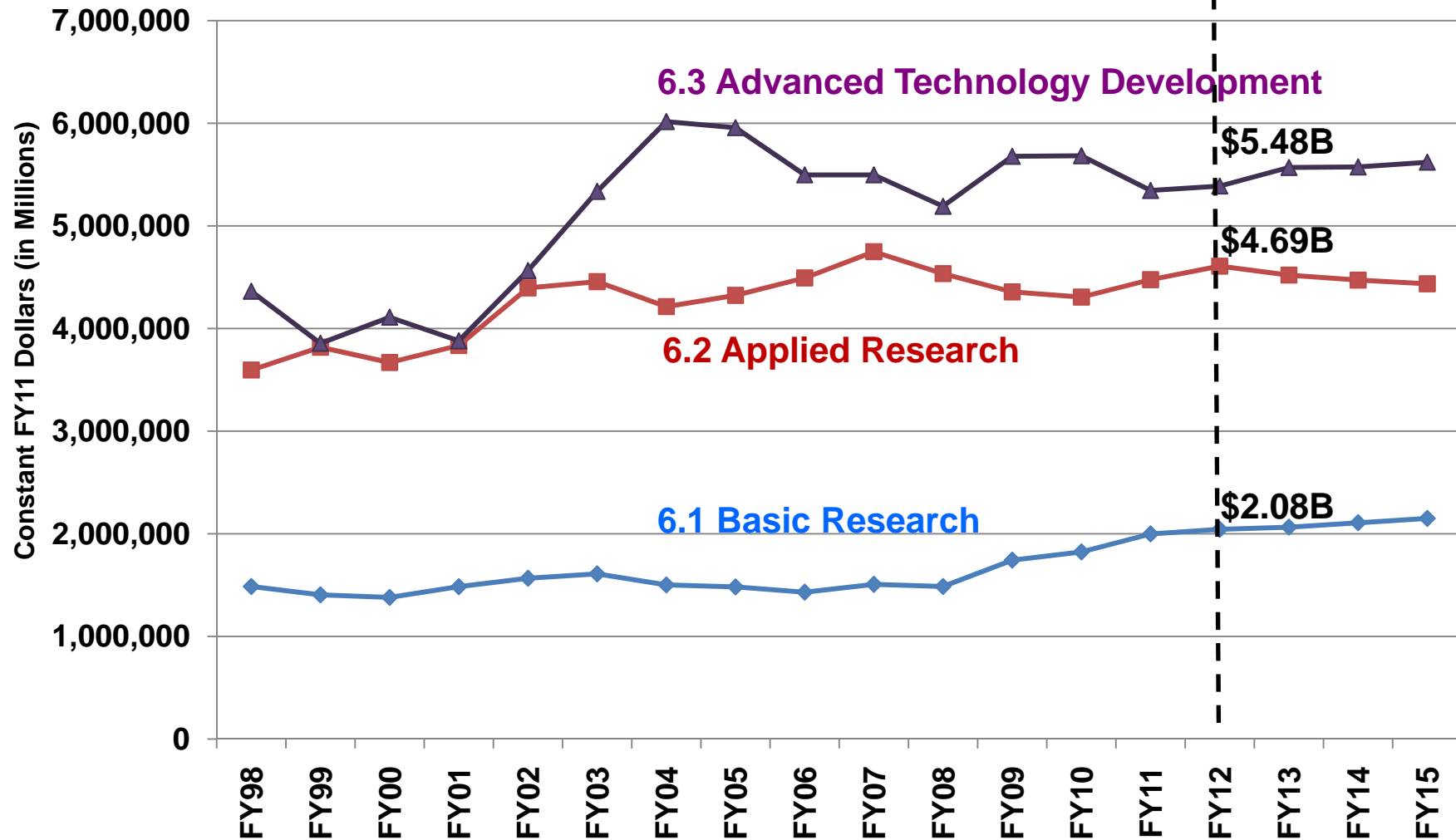


DoD S&T Funding By Budget Activity



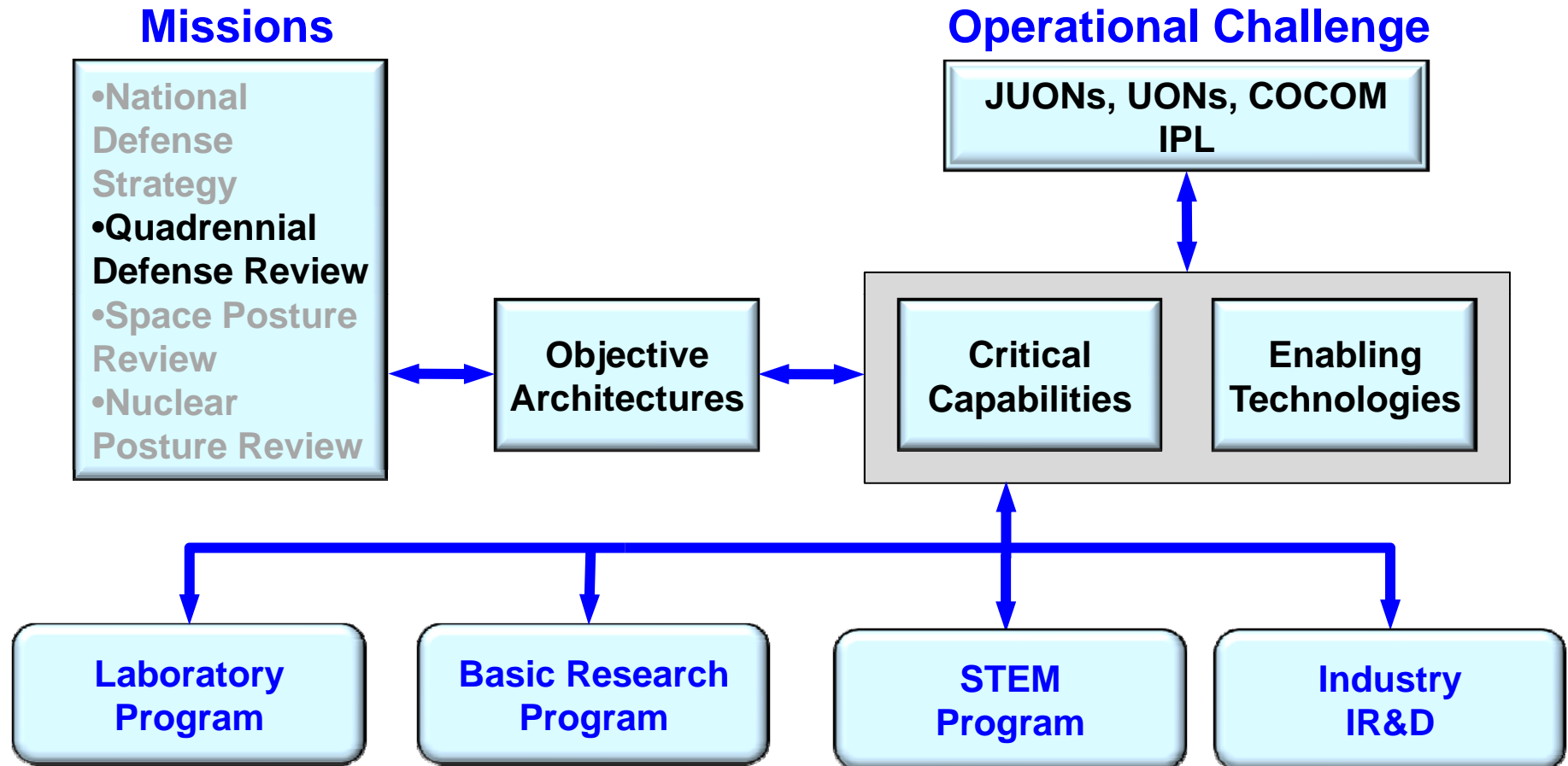
- President's Budget Requests - in Constant FY11 Dollars -

Total FY12 S&T request = \$12.25B





Integrated S&T Enterprise





S&T Executive Committee (EXCOM)



Lt Gen Larry Spencer
J8



Ms. Kathleen Hicks
DUSD(SPF)



Mr. Zach Lemnios
ASD(R&E)



Mr. Andrew Weber
ASD(NCB)



Mr. Brett Lambert
DASD(MIBP)



Dr. Regina Dugan
DARPA



Dr. Steven Walker
DASAF(STE)



Dr. Marilyn Freeman
SAAL-ZT



RADM Nevin Carr
CNR



Conference Summary



- **FY2012 President's Budget Request**
- **ASD(R&E) Programs**
 - Basic Research
 - Rapid Fielding
 - Test & Evaluation
 - Trusted Foundry
- **Department S&T Emphasis Areas**
- **Components' S&T Program Overviews**
- **Combatant Command Briefs**