Delivering Technology to the Warfighter

NDIA Spanish - US Defense Industry Day

May 18, 2015

Mr. Earl Wyatt

Deputy Assistant Secretary of Defense,
Emerging Capability & Prototyping
Office of the Assistant Secretary of Defense
(Research and Engineering)

Leadership Perspective

“We now face a more uncertain strategic environment with an increasing range of threats to mitigate.”

Deputy Secretary Work

“Our technological superiority is not assured, and in fact it is being challenged very effectively right now.”

Under Secretary Kendall

Distribution Statement A: Approved for Public Release

Defense Innovation Initiative (DII)

Identify and *invest in innovative ways* to sustain and advance our national security into the 21st century

- ***People*:** Integrate leadership development with emerging opportunities and re-think how we develop managers & leaders
- ***Wargaming*:** Reinvigorate wargaming to test alternative ways of achieving strategic objectives, and help us think more clearly about the future security environment
- ***New Operational Concepts*:** Explore how to employ resources to greater strategic effect and deal with emerging threats in more innovative ways
- ***Business Practices*:** Find ways to be more efficient and effective through external benchmarking and focused internal reviews

Deputy Secretary of Defense Memorandum at:
http://www.defenseinnovationmarketplace.mil/resources/DefenseInnovationInitiative.pdf

Distribution Statement A: Approved for Public Release

Better Buying Power 3.0

Achieving Dominant Capabilities through Technical Excellence and Innovation

Achieve Affordable Programs
- Continue to set and enforce affordability caps

Achieve Dominant Capabilities While Controlling Lifecycle Costs
- Strengthen and expand "should cost" based cost management
- Build stronger partnerships between the acquisition, requirements, and intelligence communities
- Anticipate and plan for responsive and emerging threats
- Institutionalize stronger DoD level Long Range R&D Planning

Incentivize Productivity in Industry and Government
- Align profitability more tightly with Department goals
- Employ appropriate contract types, but increase the use of incentive type contracts
- Expand the superior supplier incentive program across DoD
- Increase effective use of Performance-Based Logistics
- Remove barriers to commercial technology utilization
- Improve the return on investment in DoD laboratories
- Increase the productivity of IRAD and CR&D

Incentivize Innovation in Industry and Government
- Increase the use of prototyping and experimentation
- Emphasize technology insertion and refresh in program planning
- Use Modular Open Systems Architecture to stimulate innovation
- Increase the return on Small Business Innovation Research (SBIR)
- Provide draft technical requirements to industry early and involve industry in funded concept definition to support requirements definition
- Provide clear "best value" definitions so industry can propose and DoD can choose wisely

Eliminate Unproductive Processes and Bureaucracy
- Emphasize AE, PEO and PM responsibility, authority, and accountability
- Reduce cycle times while ensuring sound investments
- Streamline documentation requirements and staff reviews

Promote Effective Competition
- Emphasize competition strategies and creating and maintaining competitive environments
- Improve technology search and outreach in global markets

Improve Tradecraft in Acquisition of Services
- Increase small business participation, including through more effective use of market research
- Strengthen contract management outside the normal acquisition chain – installations, etc.
- Improve requirements definition
- Improve the effectiveness and productivity of contracted engineering and technical services

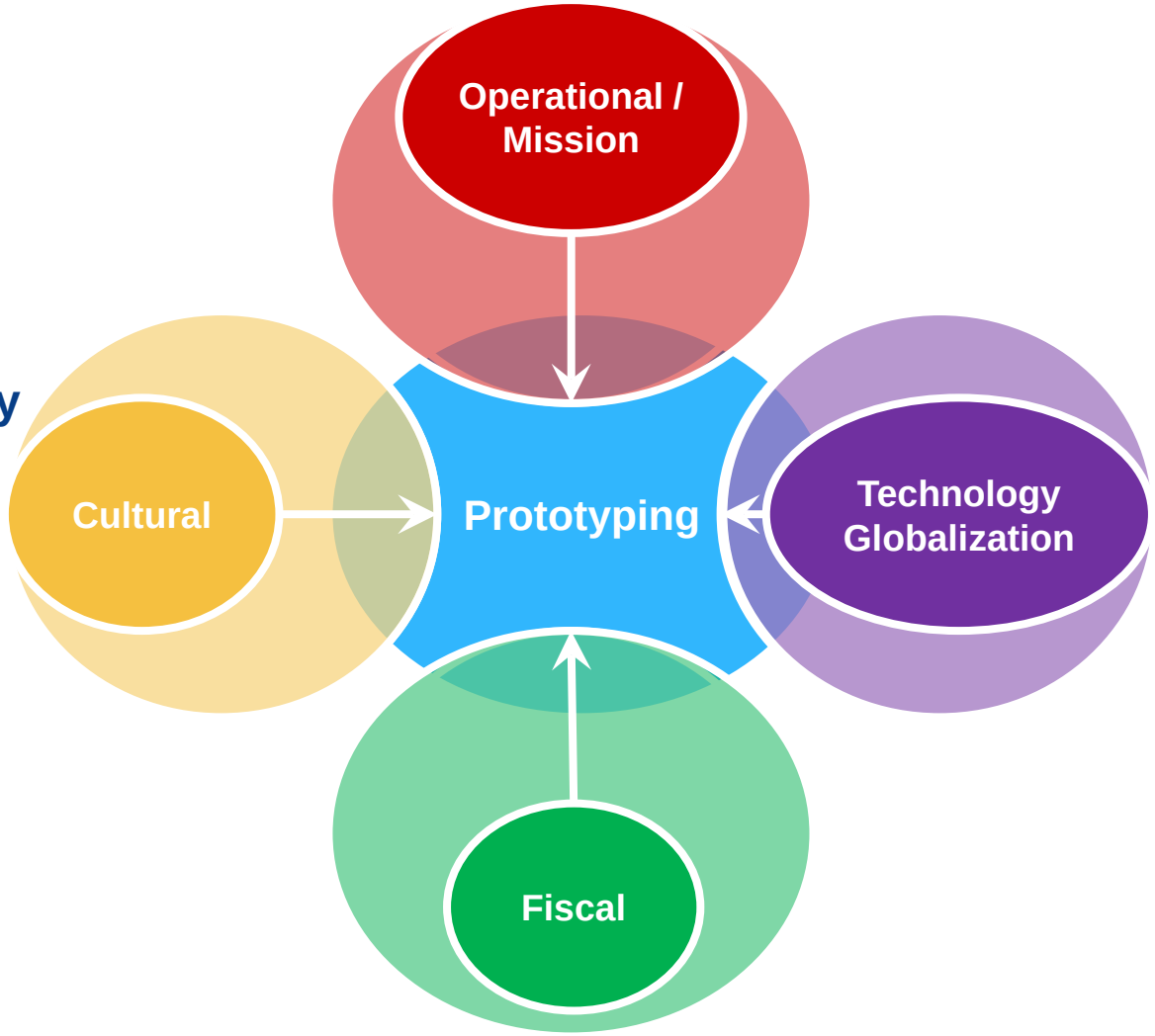
Improve the Professionalism of the Total Acquisition Workforce
- Establish higher standards for key leadership positions
- Establish stronger professional qualification requirements for all acquisition specialties
- Strengthen organic engineering capabilities
- Ensure the DOD leadership for development programs is technically qualified to manage R&D activities
- Improve our leaders' ability to understand and mitigate technical risk
- Increase DoD support for STEM education

Strengthening Cost Consciousness, Professionalism, and Technical Excellence

Distribution Statement A: Approved for Public Release

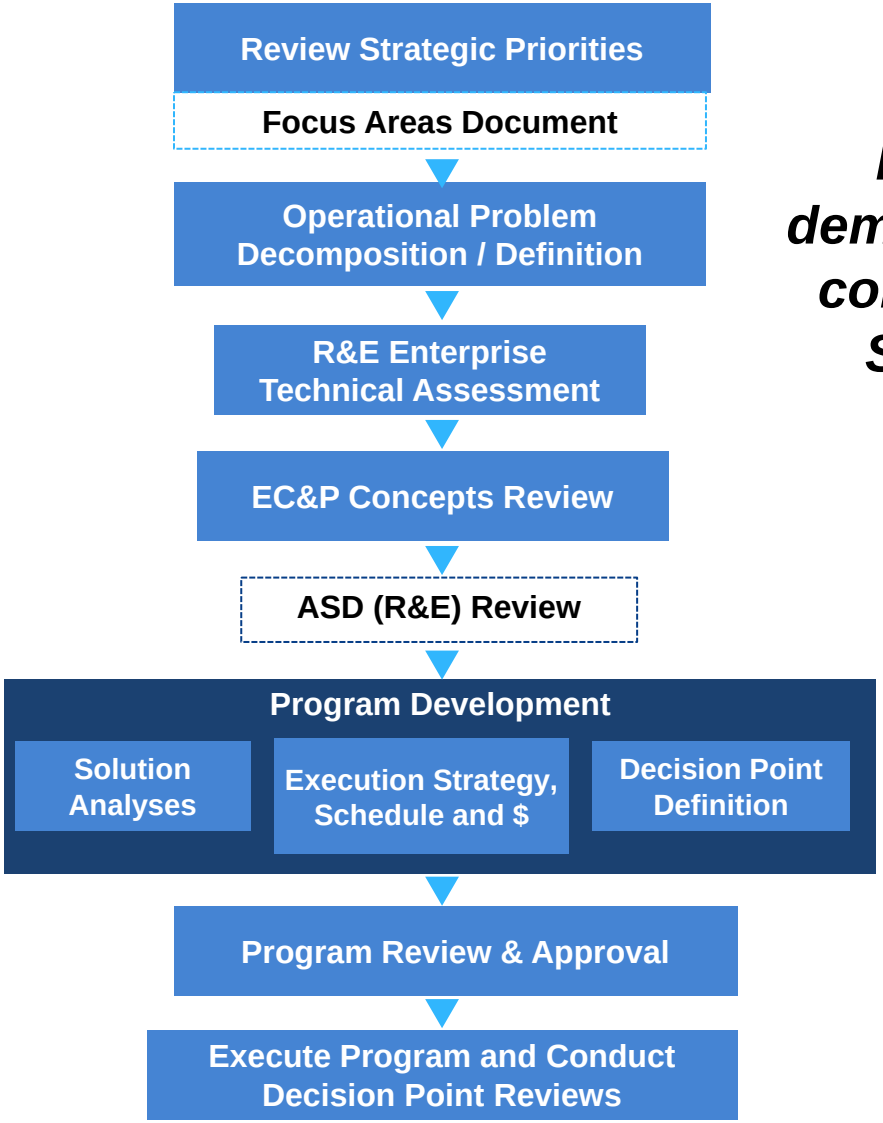
Operating Landscape

- Spectrum of operational needs
- Prioritization of mission areas
- Exploring potential military use of non-defense derived technology
- Constrained fiscal environment
- Cultural changes



Distribution Statement A: Approved for Public Release

EC&P Project Selection Process



Designed to identify, develop, and demonstrate multi-domain technologies / concepts to satisfy Department / Multi-Service / COCOM highest priorities

Focus areas for FY 15-16

- ***Electromagnetic spectrum agility***
- ***Space capability resilience***
- ***Asymmetric force application***
- ***Autonomous systems***

Distribution Statement A: Approved for Public Release

EC&P Project
Focus Areas: FY 2015 – 2016

Electromagnetic Spectrum Agility: **Capabilities that allow Department of Defense (DoD) forces to operate with freedom of maneuver in the electro-magnetic spectrum (EMS). Operations include:**

- **Gaining and attaining access to spectrum for friendly forces, denying and/or degrading spectrum to our adversaries**
- **Conducting EM deception operations to degrade an adversary's understanding of our intent and capability**
- **Otherwise preventing the adversary from leveraging the EM domain to conduct operations in other domains (i.e., air, space, maritime, land and cyber)**
- **New effects in the EMS domain to include directed energy and radio frequency disruption**

Distribution Statement A: Approved for Public Release

EC&P Project
Focus Areas: FY 2015 – 2016

Space Capability Resilience:

- **Responds to a sophisticated adversary's attempts to deny us access to our space-based capabilities and adverse space conditions that degrade our space-based capabilities**
- **Resilient response includes:**
  - **Taking proactive and reactive defensive measures (Avoidance)**
  - **Designing systems with enhanced survivability features (Robustness)**
  - **Conducting operations to replenish lost or diminished capacity (Reconstitution)**
  - **Help re-establish space capability and capacity (Recovery)**
  - **Subsystems and activities that support any systems architecture able to achieve effects normally associated with current space systems**

Distribution Statement A: Approved for Public Release

EC&P Project
Focus Areas: FY 2015 – 2016

Asymmetric Force Application:

- **Use of non-traditional technologies, tactics, and weapons to provide a clear military advantage to our forces during maneuver and engagement operations**
- **Solutions will reduce U.S. reliance on overleveraged blue capabilities and creatively exploit increasingly capable adversary systems while adjusting the cost curve in our favor**
- **Of particular interest are applications that provide an innovative technology offset and / or cost calculus advantage**
- **Includes technologies needed for - -**
  - **Countering threats associated with integrated air defense systems**
  - **Long range penetrating strike**
  - **Offensive and defensive air superiority operations**

Distribution Statement A: Approved for Public Release

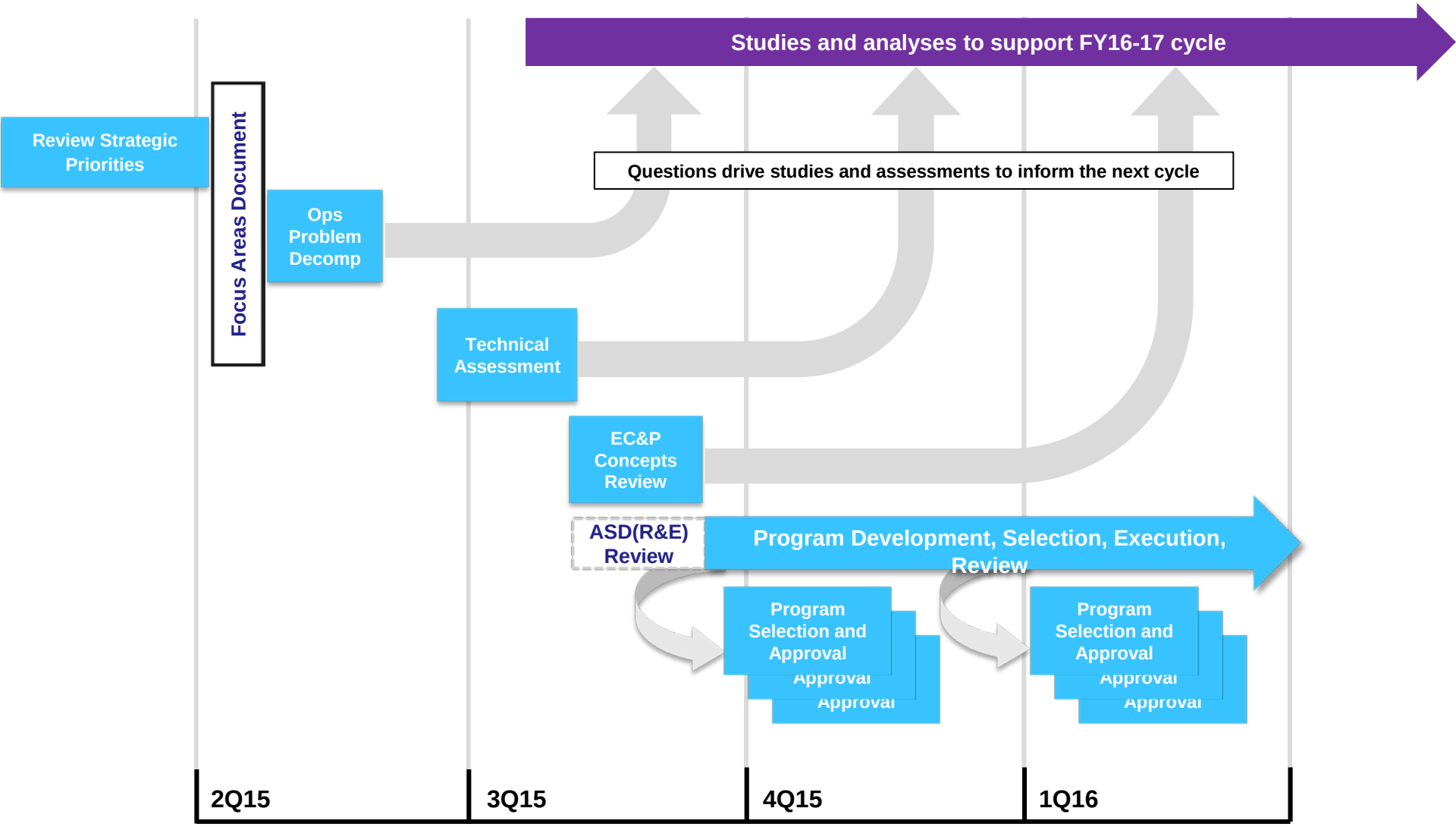
EC&P Project
Focus Areas: FY 2015 – 2016

Autonomous Systems:

- **Capability that enables a particular action of a system to be automatic or, within programmed boundaries, or 'self-governing'**
- **Important for mobile unmanned systems that must maneuver in an environment with little or no human assistance, or systems that aid human cognitive tasks, including:**
  - **Target recognition and systems that aid the human in the coordination of multiple sensors and multiple weapons to support the completion of blue, and the defeat of red, detect-to-engage sequences**
  - **Improving capability without increasing capacity by better coordinating and synchronizing current sensors and weapon systems, while maximizing the combat efficiency of both**
  - **Combing through large volumes of Intelligence, Surveillance and Reconnaissance (ISR) data, and notify the analyst of pattern of life anomalies or other data that meets user-specified criteria**

Distribution Statement A: Approved for Public Release

EC&P Timeline
FY15–16



Distribution Statement A: Approved for Public Release

The Search for the World's Best

To Date Partnered with 31 Countries

Discussions Also Conducted with Argentina, Brazil, Bulgaria, Slovakia, & Turkey

Our Interest / Instrument

- **U.S. doesn't have a monopoly on good ideas**
- **Foreign Comparative Test (FCT):**
  - ✓ **Enhances interoperability**
  - ✓ **Creates and strengthens partnerships**
  - ✓ **Enables affordability**
  - ✓ **Promotes competition**
  - ✓ **Harvests global innovation**
  - ✓ **Provides world class technology and products to improve military capabilities**

FCT Program Goals:

- **Implement Title 10 provision to conduct "side-by-side" evaluation of Allied technologies to meet DoD requirements**
- **Evaluate allied prototype technology to adapt / transition for DoD use**

OSD Program:

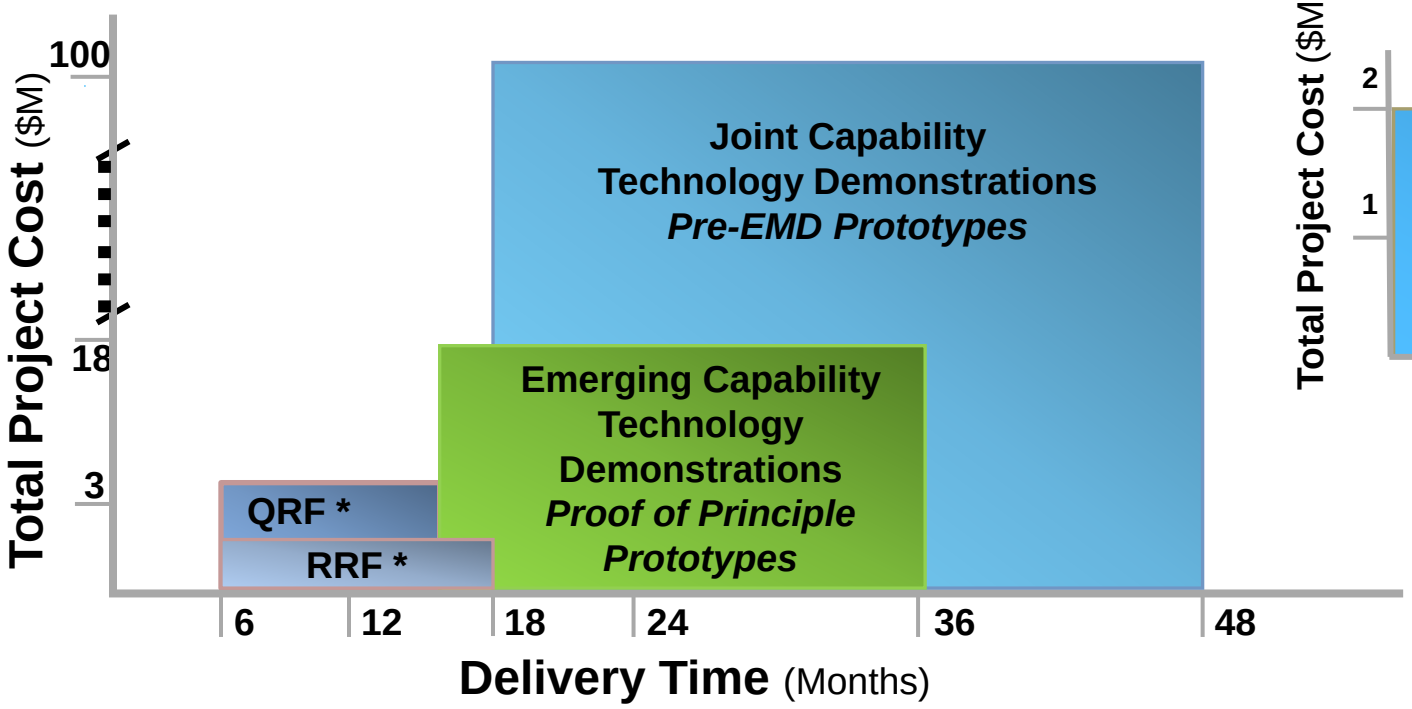
- **Facilitates use of cross-domain, international technologies for Better Buying Power (BPP), e.g., interoperable and affordable capabilities**

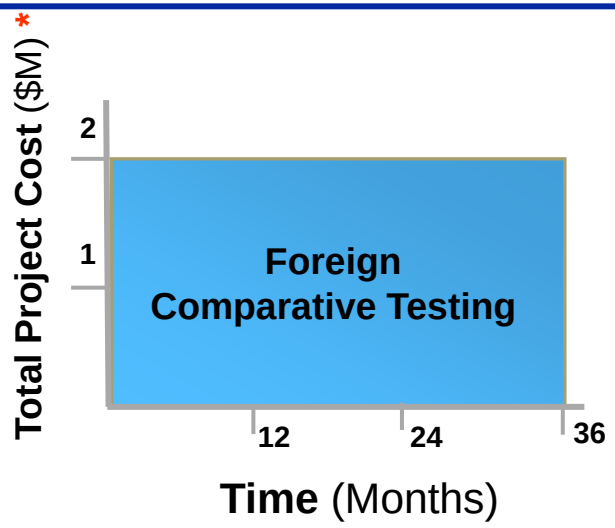
***Partners*: Services, CCMDs, Labs, Foreign & Domestic Industry, Embassies, Acquisition Program Managers, Depots, Logistics Centers, and Warfare Centers**

FCT allows us to look at foreign systems and see how they fit into US defense programs

Paraphrased from USD Acquisition, Technology and Logistics testimony (House Armed Services Committee Hearing, January 2015)

EC&P Program Elements & Parameters





- QRF – Quick Reaction Fund (conventional systems)
- RRF – Rapid Reaction Fund (unconventional systems)

* FY15 and beyond

Joint Capability Technology Demos (JCTD)
Mr Elmer Roman
703-697-3985

Emerging Capabilities Technology Demonstrations (ECTD)
Mr Glenn Fogg
703-697-4183

Quick Reaction Special Projects (QRSP)
Mr Glenn Fogg
703-697-4183

Foreign Comparative Testing (FCT)
Col Scott Wallace
571-372-6825

Distribution Statement A: Approved for Public Release

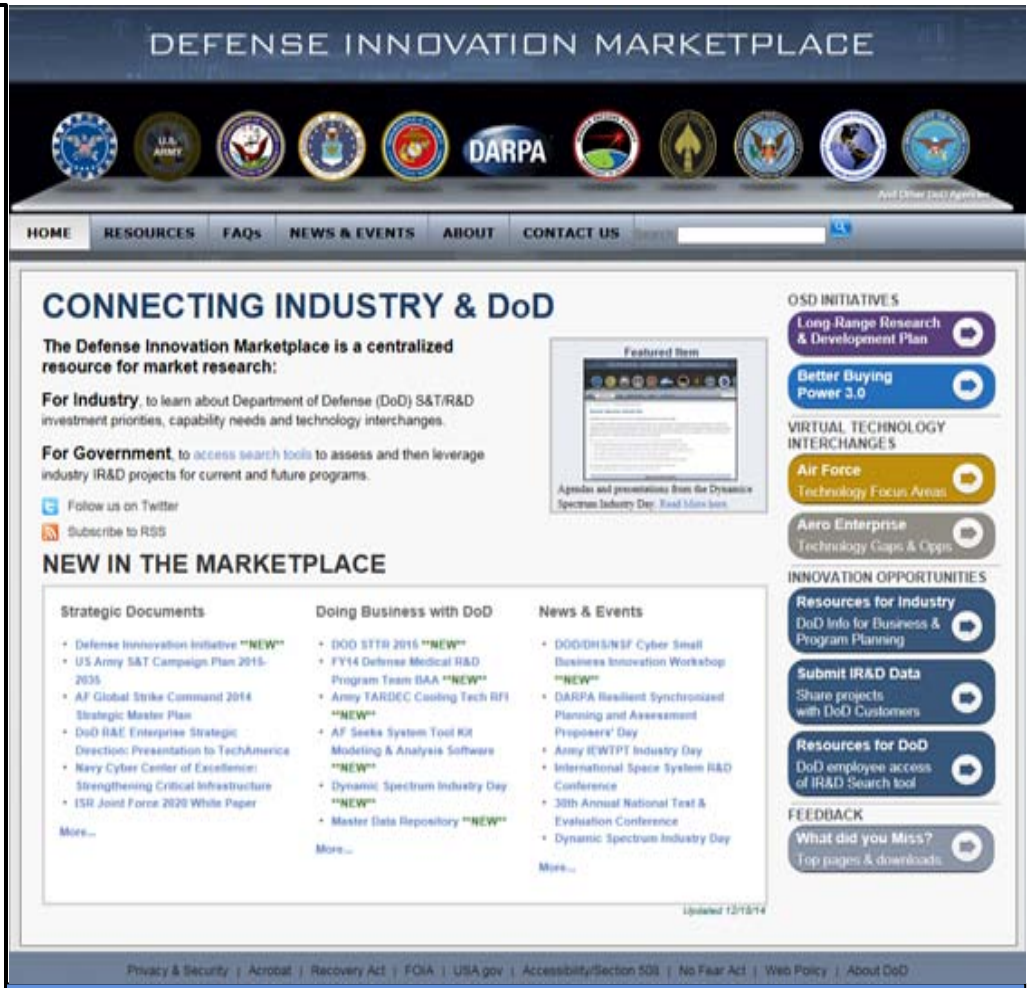
Resources for DoD R&E Enterprise
Defense Innovation Marketplace

Resources for Industry

- DoD Technology Roadmaps and Investment Strategies
  - DoD R&E Strategic Guidance documents are all posted to the Marketplace
- DoD/Service Solicitations
- Virtual Technology Interchanges & Events
- Opportunity to grow and expand DoD relationships / partnerships
- Secure Portal for IR&D Project Summaries

Resources for DOD

- Market Research for approved DoD S&T, R&D and Acquisition professionals:
  - Secure portal with more than 15,000 IR&D Project Summaries
  - Technical Maturity and Surveillance
  - Guide DoD R&E investments
  - Potential for risk / cost reduction
- Opportunity to grow and expand new relationships and partnerships



www.DefenseInnovationMarketplace.mil

Distribution Statement A: Approved for Public Release