RAPID FIELDING
A Path for Emerging Concept and Capability Prototyping

Mr. Earl Wyatt
Deputy Assistant Secretary of Defense, Rapid Fielding
Office of the Assistant Secretary of Defense (Research and Engineering)
Strategic Guidance

Quest for agility, innovation, and affordability

“As we end today’s wars and reshape our Armed Forces, we will ensure that our military is agile, flexible, and ready for the full range of contingencies.”

“This country is at a strategic turning point after a decade of war and, therefore, we are shaping a Joint Force for the future that will be smaller and leaner, but will be agile, flexible, ready, and technologically advanced.”


“We are continuing our efforts in the following seven areas to achieve greater efficiency and productivity in defense spending:

1. Achieve affordable programs;
2. Control costs throughout the product lifecycle;
3. Incentivize productivity and innovation in industry and Government;
4. Eliminate unproductive processes and bureaucracy;
5. Promote effective competition;
6. Improve tradecraft in acquisition of services; and
7. Improve the professionalism of the total acquisition workforce.”

– Better Buying Power 2.0

“When there is a strong threat-based or operationally driven need to field a capability solution in the shortest time, MDAs are authorized to implement streamlined procedures designed to accelerate acquisition system responsiveness. Statutory requirements will be complied with, unless waived in accordance with relevant provisions.”

– Interim DoDI 5000.02, November 26, 2013

“The goal of Reliance 21 is to ensure that the DoD S&T community provides solutions and advice to the Department’s senior-level decision makers, warfighters, Congress, and other stakeholders in the most effective and efficient manner possible. This is achieved through an ecosystem and infrastructure that enables information sharing, alignment of effort, coordination of priorities, and support for scientists and engineers across the Department.”

– Reliance 21, January 2014

“Staying ahead of security challenges requires that we continue to innovate, not only in the technologies we develop, but in the way the U.S. forces operate. Innovation – within the Department and working with other U.S. departments and agencies and with international partners – will be center stage as we adapt to meet future challenges.”

– Quadrennial Defense Review 2014

Distribution Statement A: Approved for Public Release
Challenges

- Spectrum of operational needs
  - 18th Century Piracy — 21st Century Cyber
- Prioritization of mission areas
- Exploring potential military use of non-military technology
- Constrained fiscal environment
- Cultural changes
  - Nature of warfighting
  - Industry mind-set
Prototyping as a Path to Agility, Innovation, and Affordability

A proven tool for:
- Technical risk reduction
- Demonstrating feasibility
- Measuring operational value
- Advancing technical skill sets
- Advancing the state of practice in unique disciplines

Enable DoD to affordably:
- Explore the realm of the possible without commitment to follow-on procurement
- Cost-effectively enhance interoperability and reduce lifecycle costs
- Devise / demonstrate a hedge against technical uncertainty or unanticipated threat
Why DASD Rapid Fielding?

- **Mission:** Identify, develop and demonstrate multi-domain technologies and concepts to satisfy DoD, Multi-Service and COCOM priorities

- **Leverage well-developed skill sets**
  - Demonstrated ability to deliver both operationally field-able and less technically mature developmental prototypes

- **Leverage networks within the Global R&E Enterprise**
  - Fully exercise the R&E Enterprise (Gov’t labs and integration facilities, depots, academia, etc.), as well as traditional and non-traditional providers
  - Utilize best practices to satisfy joint and cross-cutting needs
**Methodology**

- **Capability Shortfall**
- **Problem Definition**
  - Find
  - Fix
  - Target
  - Track
  - Engage
  - Assess
- **Decompose Problem**
  - Find
  - Fix
  - Target
  - Track
  - Engage
  - Assess
- **Define Solution Options**
  - Find – Yes
  - Fix – Yes
  - Target – Yes
  - Track – Maybe
  - Engage – No
  - Assess – Yes
- **Prototype**
  - Marry guidance system to existing rocket
- **Assessment**

**Distribution Statement A: Approved for Public Release**
FY14-15 Themes Under Consideration

• Space capability resilience
• Autonomous systems
• Electromagnetic spectrum agility
• Countering weapons of mass destruction
• Novel counters for force applications
RF Program Elements & Parameters

Project Parameters – Avg Cost & Time

<table>
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<th>Delivery Time (Months)</th>
<th>Joint Capability Technology Demonstrations (JCTD)</th>
<th>Operational Prototypes</th>
<th>Emerging Capability Technology Demonstrations (ECTD)</th>
<th>Developmental Prototypes</th>
<th>Foreign Comparative Testing (FCT)</th>
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* QRF – Quick Reaction Fund
* RRF – Rapid Reaction Fund
* FY15 and beyond

Emerging Capabilities Technology Demonstrations (ECTD)
Mr Glenn Fogg
703-697-4239

Joint Capability Technology Demos (JCTD)
Mrs Robin Hicks
703-697-4056

Foreign Comparative Testing (FCT)
Col Hans Miller
571-372-6825

Quick Reaction Special Projects (QRSP)
Mr Glenn Fogg
703-697-4239

RRF * Avg Cost in 6.3 approp. ($M)

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Instruments

### Developmental Prototypes
- Demonstrate feasibility of an integrated capability
- Provide evidence of overcoming specific technical risk barriers
- Develop sufficiently detailed cost data to enable cost-capability trades

### Operational Prototypes
- Demonstrate military utility of integrated capability solutions
- Demonstrate robust fabrication processes
- Demonstrate performance in specific operational environments
- Define form, fit, function and “ilities”
- Enable business case analyses

**Distribution Statement A: Approved for Public Release**
Agility, Innovation & Affordability

~ Summary ~

**Strategic Guidance**

- Sustaining US Global Leadership: Priorities for the 21st Century Defense
- Better Buying Power 2.0
- Interim DoDI 5000.02, November 26, 2013
- Reliance 21, January 2014
- Quadrennial Defense Review 2014

**Challenges**

- Operational / Mission
- Cultural
- Fiscal
- Technology Globalization

**Methodology**

1. Capability Shortfall
2. Problem Definition
3. Decompose Problem
4. Define Solution Options
5. Prototype
6. Assessment

**Instruments**

**Developmental Prototypes**
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“Opportunities multiply as they are seized.”
Sun Tsu, The Art of War