Developmental Test & Evaluation

Pentagon Response to Strengthening DT&E

Presented to NDIA T&E Conference

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Megatrends

What's new in DT&E?

DT&E Focus Areas

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Megatrends

- **WSARA**

  OSD response

- **Acquisition Efficiencies**

  Better Buying power

SECDEF Press Conference
6 JAN 2011

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> **"This department simply cannot risk continuing down the same path – where our investment priorities, bureaucratic habits, and lax attitudes towards costs are increasingly divorced from the real threats of today, the growing perils of tomorrow, and the nation's grim financial outlook."**
>
> **Secretary of Defense Robert M. Gates**

WSARA and DT&E

Principal advisor to the Secretary of Defense and AT&L on DT&E in the DoD

Responsibilities:
– Program Oversight
– Planning (TEMP /s/)
– Policy and Guidance
– Acq DT&E workforce
– Component Capability
– Annual Report

DT&E in Title 10, USC, Section 139d

Pentagon Plan for Efficiency

- Target Affordability and Control Cost Growth

- Incentivize Productivity & Innovation in Industry

- Promote Real Competition

- Improve Tradecraft in Services Acquisition

- Reduce Non-Productive Processes and Bureaucracy

(L) Secretary of Defense Robert M. Gates
(R) USD AT&L Dr Ashton B. Carter

"**Consumers are accustomed to getting more for their money – a more powerful computer, wider functionality in mobile phones – every year. When it comes to the defense sector, however, the taxpayers had to spend significantly more in order to get more. We need to reverse this trend.**"

Secretary of Defense Robert M. Gates

Implications for the Test and Acquisition Communities

- ## Enterprise will manage risk
  - Rapid vs. Deliberate Acquisition

- ## Visibility
  - DT&E voice at DAB
  - Increased planning rigor/fidelity
  - Efficiencies: DOE, IT, M&S……..

- ## Acquisition
  - Oversight and Accountability
  - Accept less risk at MS decisions
  - Improving Process Effectiveness
  - More DT less OT?
    - Confirmation vs Discovery
  - Affordability

What's new in DT&E?

- **Director, DT&E is now DASD (DT&E)**

- **Concurrent Service TRMC/DT&E**

- **Major Leverage Points**
  - TEMP Approval
  - Defense Acquisition Board Engagement
  - Peer Reviews
  - Assessment of Operational Test Readiness

- **Annual Report: 2nd in the hopper**

- **Policy Changes:**
  - Key Leadership Positions

5 Last

….. DASD(DT&E) Focus Areas

DASD (DT&E)

- T&E Workforce (Inherently Gov Work)
- DAU T&E Curriculum
- Metrics - WSARA requirement
- DOE
- Responsible Test Organization

SecDef Efficiencies

- TES / TEMP Consolidation
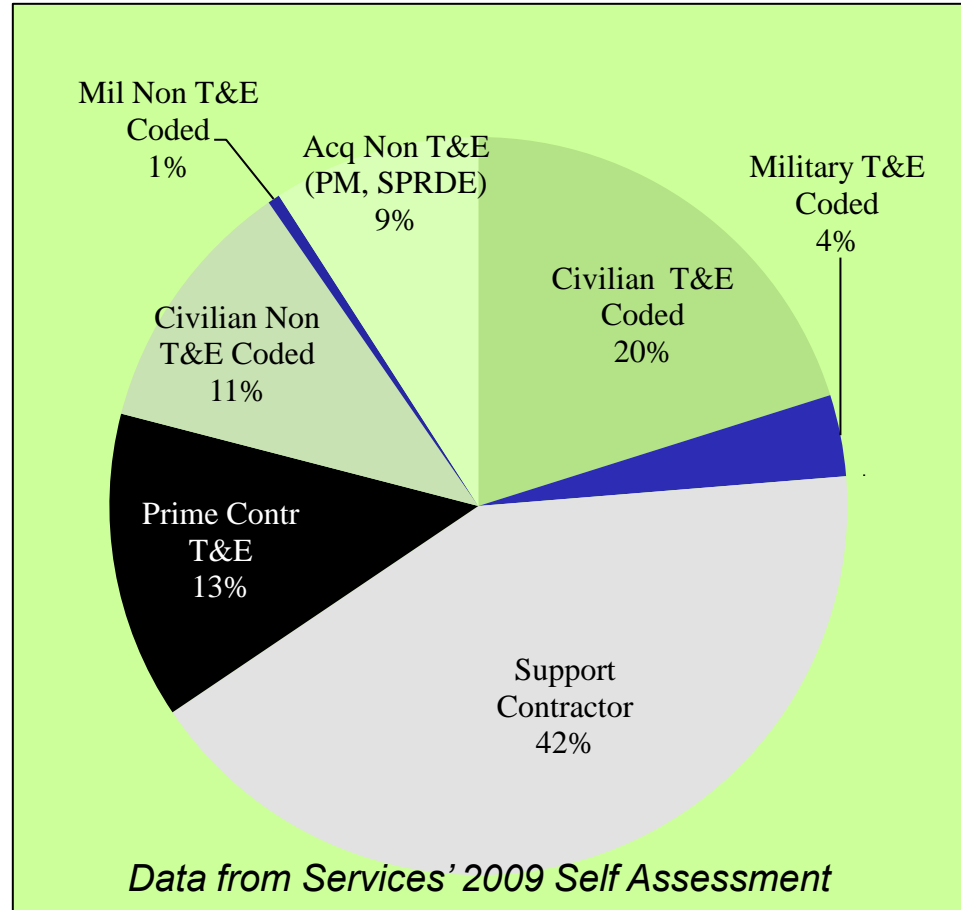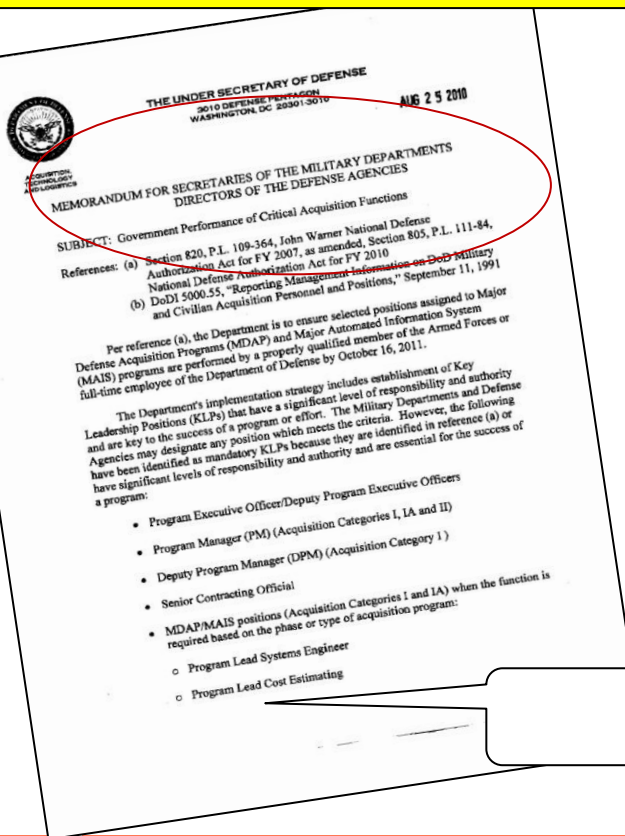- Use of Government T&E Facilities
- Concurrent Service TRMC/DT&E

10 Last

T&E Workforce:
Government Performance of Critical Acquisition Positions

T&E Workforce divided:

- **DAWIA coded**
- **Non-DAWIA coded**
- **Service Support Contractors**

Pie chart with the following segments:
- Mil Non T&E Coded 1%
- Acq Non T&E (PM, SPRDE) 9%
- Military T&E Coded 4%
- Civilian T&E Coded 20%
- Civilian Non T&E Coded 11%
- Prime Contr T&E 13%
- Support Contractor 42%

Data from Services' 2009 Self Assessment

o Program Lead Test and Evaluation

DAU T&E Curriculum

T&E curriculum out of date

- **DT&E actively involved with DAU**

- **Training for Non-DAWIA coded workforce**

- **DAU T&E Curriculum Re-Certified**

- **Incorporate practical training**

Improved training for entire T&E Workforce

Responsible Test Organizations (RTOs)

Lack of DT&E expertise and impartial evaluation

- Immature systems going into OT&E
- Lack of government access to contractor data
- Lack of impartial evaluations of system performance
- No single government point of contact for DT&E

- Way Ahead:
  - Finalize RTO definition with T&E Execs and Components
  - DoD 5000.02 Policy Change: Require designation of Gov RTO
  - Update Defense Acquisition Guidebook

Impartial & early reporting of system deficiencies

TES/TEMP Consolidation

Acquisition documents being streamlining

- TES development duplicates TEMP development

- Not enough transparency on T&E resources at Milestone A

- Eliminate the TES at Milestone A

- Incorporate into a TEMP at Milestone A

Earlier planning & identification of T&E resources

Use of Government T&E Capabilities

Government paying twice for T&E capabilities

- **DoD owns a National resource of T&E capabilities**

- **$5.6 _Billion_ investment and operating cost in FY10**

- **Need to realize maximum value from capital investments**

- **Reinforce and Require adherence to Policy & Guidance**

Improves capital utilization of existing facilities

RTA's Wanted !

Rotational Training Assignees sought for 1 year professional development assignment in OSD / DT&E
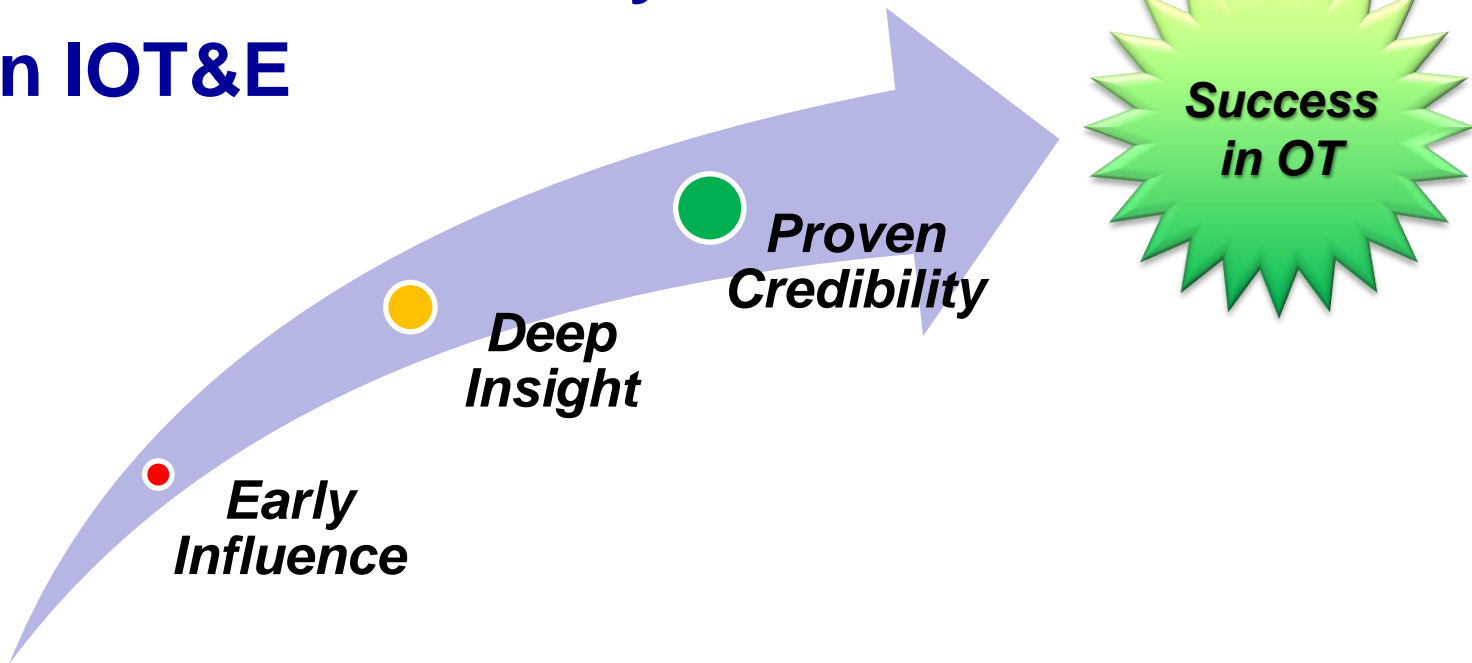
- 1 Yr minimum tour length
- DT&E covers mission TDY costs
- Outstanding Professional development
- Perfect for GS-13/14/15 seeking OSD experience
- Contact DT&E for more info!

DT&E's Vision

- ## Improving Acquisition Outcomes
  - *"Going from red to green…"*
- ## Early & Continuous Program Engagement
- ## Minimize Discovery
  ## In IOT&E

Success in OT

Proven Credibility

Deep Insight

Early Influence

Questions?

OFFICE OF THE SECRETARY OF DEFENSE

OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY AND LOGISTICS

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The right information, to the right decision maker, at the right time, for *better* decisions

Back-Up

Testing in OSD

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                    │   Secretary of Defense          │
                    │   The Honorable Robert M. Gates │
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Secretary of Defense

The Honorable Robert M. Gates

**Under Secretary of Defense
AT&L
Hon Ashton B. Carter**

**Director, Operational
Test and Evaluation
Hon Michael Gilmore**

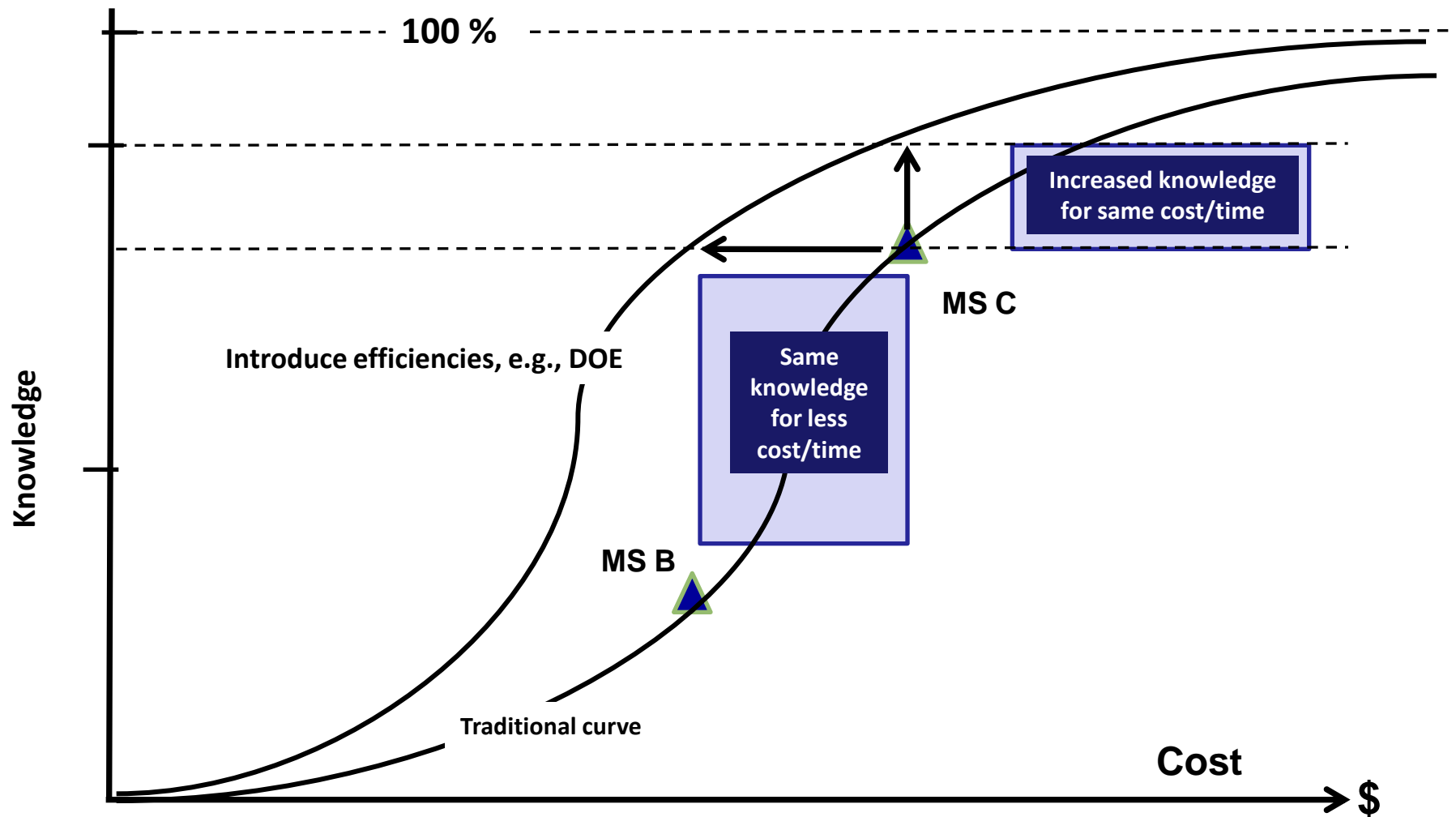**ASD, Defense
Research
and Engineering (DDR&E)**

Hon Zachary J. Lemnios

**Director,
Test Resource
Management Center (TRMC)**

Dr. John Foulkes

**DASD, Developmental
Test and Evaluation (DT&E)**

Mr. Edward Greer

Knowledge vs Cost

T&E Challenge: most knowledge for the least resources.

Challenges to doing good?

1. **"Testers like to test"**
   – Who requires, who pays?

2. **"A dollar spent on test is a dollar spent on bad news"**
   – Incentives matter

3. **"Testing is driving up our costs"**
   – Now vs. later?

4. **"We can't afford it "**
   – See #3

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….. and how can T&E help?

Enterprise Perspective
- Acquisition Savings
  - Mature Systems
  - Reliability
  - Early discovery
- Adequate testing (early)

T&E Cost
- Too much
- Bad news
- Late T&E Requirements

Test Community Perspective
- Recognize our role
- Manage our appetite
- Support the risk-based level of information needed
- Do our job more efficiently

T&E Savings
- DOE
- Distributed
- CRIS
- Capital Utilization
- Integrated Test

What's Wrong with Acquisition?

THE USUAL (?) SUSPECTS

Cost

Over Budget

– GAO: 96 MDAPs, $300B over initial estimates

Schedule

Late to Need

– Getting capability to the user to meet urgent needs

Performance

Programs failing Operational Test

– Suitability issues
– Late discovery of failure modes
– Performance shortfalls
– Interoperability

Why Test?

- Iterate/Mature the Design
- Failure Mode Discovery

> Material Developer

- Inform Acquisition Decisions

> Decision Authority

- Confirm Performance
- Safety
- Capabilities and Limitations

> Warfighter

**"Testing is the Conscience of Acquisition"
William J. Perry - former SecDef**

Cyber Warfare

Computer Network Operations

- Months, days, hours…uSecs
- Attribution
- Role?   DoD, Federal, Civil

Attack (CNA)

- Precision strike
- Kinetic effects

Defense (CND)

- Cyber missiles
- Mission critical tasks, functions

Exploitation (CNE)

- Intelligence

"The best-laid defenses on military networks will matter little unless our civilian critical infrastructure is also able to withstand attacks." …..Deputy Secretary Bill Lynn

Cyber Warfare

What's the role for T&E?

Scope: Focus on CND and MDAPs?

- Define cyber defense issues in network environments
- What systems are most vulnerable?
  - Weapon systems?
  - IT systems?
- Rigorous cyber defense testing
- Develop a cyber defense T&E framework
- Institutionalize cyber defense IT

With hundreds of legacy and new programs in development each entering our networks, we cannot afford the chaos of each one individually planning or just not testing for cyber defense.

SecDef Efficiency Objectives

- Deliver the warfighting capability we need for the dollars we have

- Get better buying power for warfighter and taxpayer

- Restore affordability to defense goods and services

- Improve defense industry productivity

- Remove government impediments to leanness

- Avoid program turbulence

- Maintain a vibrant and financially healthy defense industry

Obtain 2-3% net annual growth in warfighting capabilities without commensurate budget increase by identifying and eliminating unproductive or low-value-added overhead and transfer savings to warfighting capabilities. Do more without more.

T&E Challenges

- ## Rapid Fielding
  - Safety
  - Caps and Lims

- ## Emerging Technologies
  How/where to test?
  - Hypersonics
  - Autonomous systems
  - Weaponized unmanned systems
  - Net-enabled weapons

- ## Range Encroachment
  - OCS exploration/drilling ?
  - Spectrum?
  - Wind generators… !!!!!

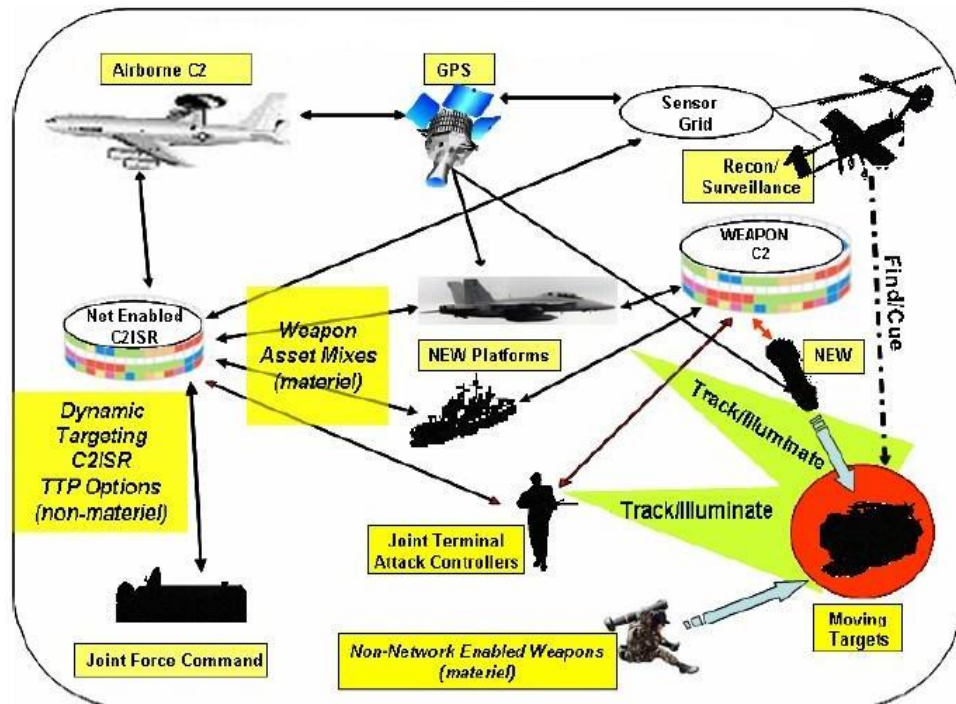- ## Complex Systems
  - System of Systems
  - Interdependent systems?
  - Data fusion
  - S/W intensive systems

- ## Balancing Adequacy vs Speed to Field, Cost…..
  - DOE?
  - How much is enough? Risk management
  - How much M&S? LVC?
  - Other tools

T&E Challenges (continued)

- ## Reliability
  - 50% of MDAPs are failing OT (Suitability)
  - DOT&E imperative – RAM growth testing

- ## Rigor – Realistic Environments?
  - Stressing countermeasures (GPS jamming), clutter….. Operationally relevant scenarios
  - Threat representations

- ## End-to-End testing
  - Mission Context
    - Mission threads
  - Interoperability and IA

Where are We Going?

As Is	To Be
Serial Testing	Integrated Test/Training
Platform-Based	System of Systems
Threat-Based	Complex Capabilities
Contract Compliance	Mission Context
Interoperability	Joint Mission Thread
Deliberate	Rapid/Responsiveness

Our T&E process needs to evolve to support faster product cycles, more adaptable products and address challenges

DT&E Challenges/Imperatives

- **Support Acquisition (WSARA)**
  - Robust, efficient, risk-based T&E
  - Early engagement
  - Performance Assessment (inform the decision makers)

- **Support SecDef Initiatives (Efficient T&E)**
  - Integrated Test
  - DOE
  - Capital Utilization
  - M&S, ground testing
  - Distributed testing

- **Reliability**

- **Cyber**