



Army Test and Evaluation Command



Operational Testing: Turning Challenges into Opportunities

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Agenda

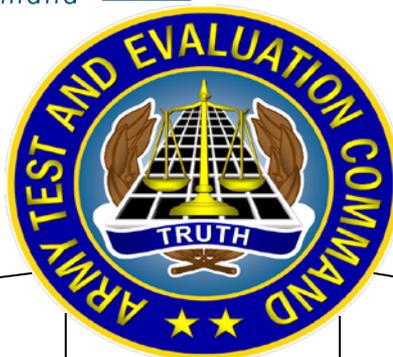
- ATEC Vision and Structure
- Challenges in Operational Testing
- Way Ahead

http://www.youtube.com/watch?feature=player_detailpage&v=dvJ4fqaYFq0



ATEC Vision Statement

To determine the true capability provided to our Warfighters through developmental, integrated, and operational testing evaluated in an independent and objective manner. We execute our mission in a collaborative environment. We invest in both our people and infrastructure. We seek the voice of our customer as we continuously improve in all aspects of our command to become more interdependent, affordable, effective, and efficient.



MG Genaro
Dellarocco



Mr. Brian Simmons



Mr. David
Jimenez

BMD OTA

Mr. Greg
Tackett



COL Joseph
Martin

Mr. James
Amato



COL Ronald
Jacobs



COL Gordon
Graham



COL A. Scott
Estes



Mr. Ryan
Harris



COL Steven
Kihara



BG Gwen
Bingham



Mr. Robert
Carter



WSTC
COL James
Winbush

* Incoming
BG Gwendolyn
Bingham



YPG

COL Reed
Young

CRTC

LTC Charles
May

YTC

LTC Chad
Harris

TRTC

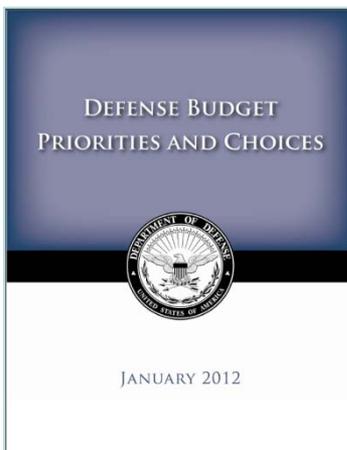
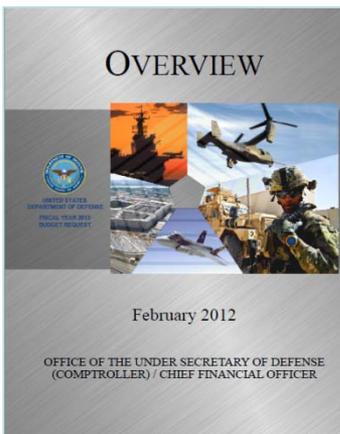
Mr. Ernie
Hugh

ATEC: Army Test Evaluation Command
OTC: Operational Test Command
AEC: Army Evaluation Center
BMD OTA: Ballistic Missile Defense
Operational Test Agency

ATC: Aberdeen Test Center
DPG: Dugway Proving Ground
EPG: Electronic Proving Ground
RTC: Redstone Test Center
WSMR: White Sands Missile Range
YPG: Yuma Proving Ground

WDTC: West Desert Test Center
WSTC: White Sands Test Center
CRTC: Cold Regions Test Centers
TRTC: Tropic Regions Test Center
YTC: Yuma Test Center

Challenges



- Declining Resources
- Fewer New Program Starts
- Broader Focus: Beyond the Desert
- Greater System Complexity
- Networked: System of Systems
- Cyber Threat

OT Requires Realistic Combat-like Conditions

- Equipment and personnel placed under realistic stress and OPTEMPO.
- Realistic combat tactics employed -- for both friendly & threat.
- Operationally realistic environment & conditions.
 - Not just desert – need Asia-Pacific.
 - Interfacing systems
- Operationally realistic targets / actual targets.
- Appropriate contractor involvement.
- Threat forces – needs to be a real unit w/ Commander, intent on winning.
- Counter-measures (communications, radar, GPS, EO/IR CM).

Gray Eagle IOT

- **Dates:**

- Pilot Test: 20-24 Jul 2012

- Record Test: 30 Jul – 17 Aug 2012

- **Location: Edwards AFB, CA / National Training Center, Fort Irwin, CA**

- **Operational Enduring Freedom Scenario**

- **Challenges:**

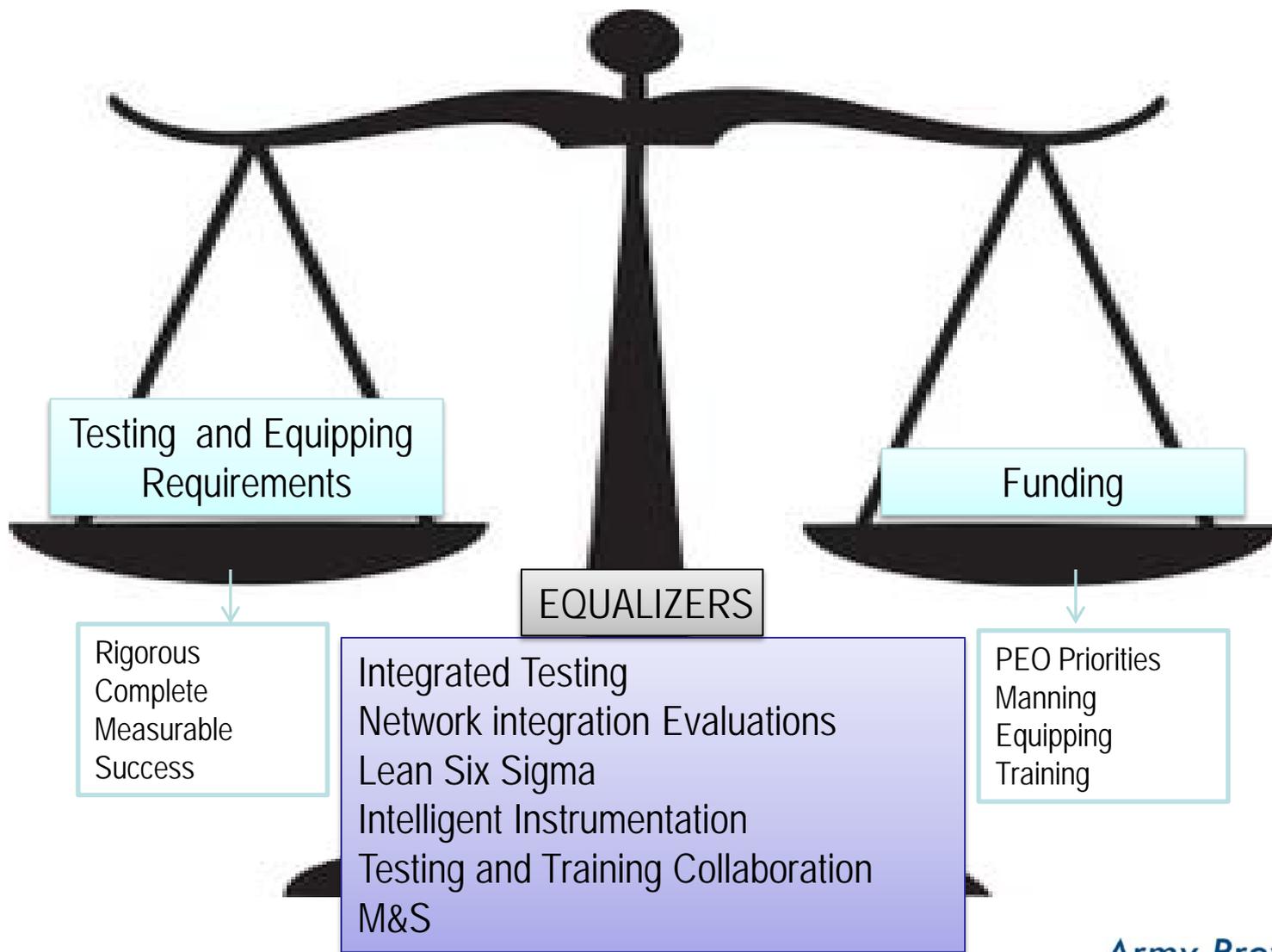
- Manning

- Conflicting priorities of test vs rotational unit training objectives

- Assessing contribution to mission effectiveness



The Way Ahead



Integrated Testing

- What is Integrated Testing?
 - A cohesive test and evaluation plan that spans all stages of testing.
 - Integrated test is **NOT simply combining data from different test events.**
 - Integrated test is **NOT a replacement for dedicated OT.**

- Integrated Test methods:
 - Using data from CT, DT, and OT to inform the next stage of testing
 - When appropriate, combine CT, DT, and OT data
 - Reduce test time, increase statistical confidence and power
 - Integrate DT and OT test objectives
 - Enhance operational realism in DT to reduce OT requirements
 - Design of Experiments helps plan efficient, integrated testing
 - Plan testing as a sequence of tests



Network Integration Evaluation

- **WHAT IS THE NIE?** The Network Integration Evaluation (NIE) is a series of semi-annual evaluations designed to integrate and mature the Army's tactical network.
 - Conduct integrated and parallel Operational Tests of select Army programs of record.
 - Evaluate developmental and emerging network capabilities in an operational environment.
 - Assess non-networked capabilities in an integrated operational environment.
- **WHAT'S DIFFERENT ABOUT THE NIE FROM OTHER EVALUATIONS?** The Army is making significant changes to how we evaluate capability solution candidates.
 - Integrated evaluations of capabilities rather than discrete evaluations.
 - Synchronized and consolidated feedback loop with evaluations twice per year.
 - Evaluation and integration from PLT to full BCT level.
 - Tactical AO encompassing up to 12,000 sq-km of complex terrain and airspace.
 - Includes opportunities for integrating industry solutions and emerging technologies in parallel.
 - Establishes a network baseline for incremental modernization.
 - The Business Case: Reduced costs thru efficiency and competition/Quicker cycle times/Rapid technology insertions.

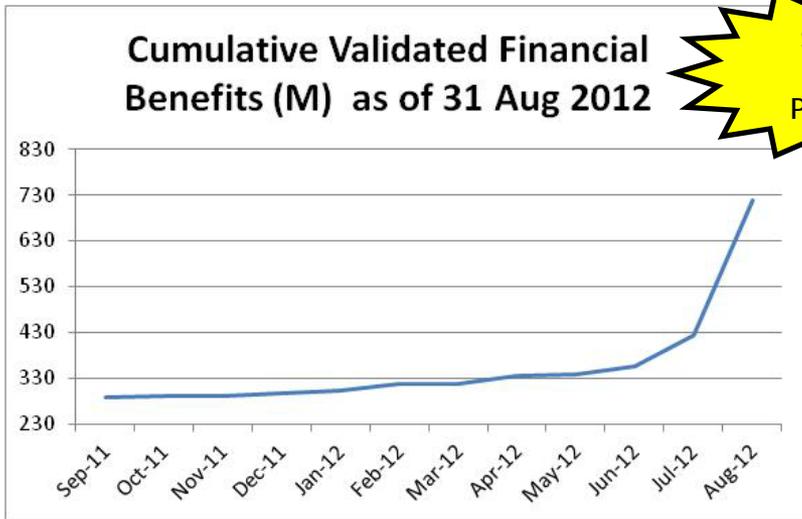
Is a fundamental shift in acquisition that incorporates the lessons learned in 10 years of Overseas Contingency Operations. It merges the rapid initiative concept for identification of capability gaps and the focused test and evaluation of candidate solutions.

How NIE Is Changing ATEC's T&E Processes

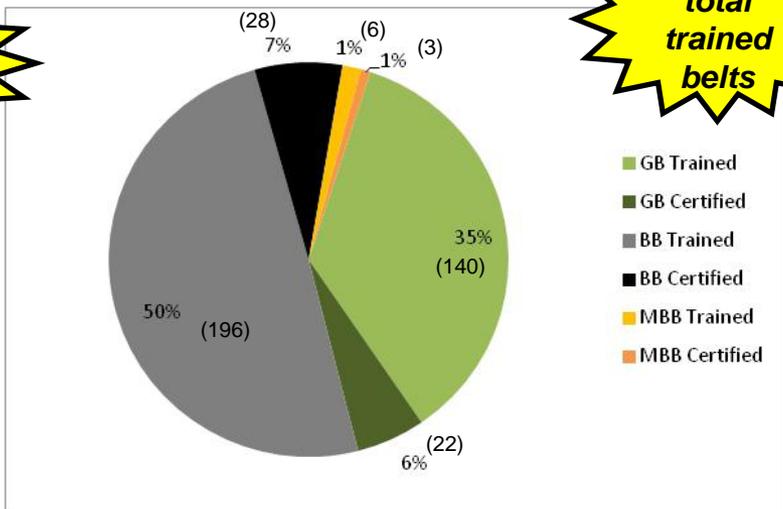
- Concurrent test of PORs and systems.
- 3000 plus operators conducting operational testing and training on the DoD's largest developmental test range.
- Requires inter-command contracting reliance (documented Lean Six Sigma (LSS) savings of \$4~5M per NIE and \$35M over the POM)
- Requires emphasis on common data collection tools, instrumentation, expertise, and efficiencies.
- Requires ATEC to operate as an enterprise.

NIE represents the greatest expanse of real estate, DoD ranges, and communications infrastructure available to the Army.

ATEC Lean Six Sigma (LSS) "Lead from the Front"



**\$718M
254
Projects**



- 23 Network Integration Evaluation projects
- Executed 30 TEMP Efficiencies to date

- 100% of ATEC senior leaders are black belt trained
- Subordinate Commanders are using LSS tools to affect hiring decisions

Demonstrating Efficiencies and Savings

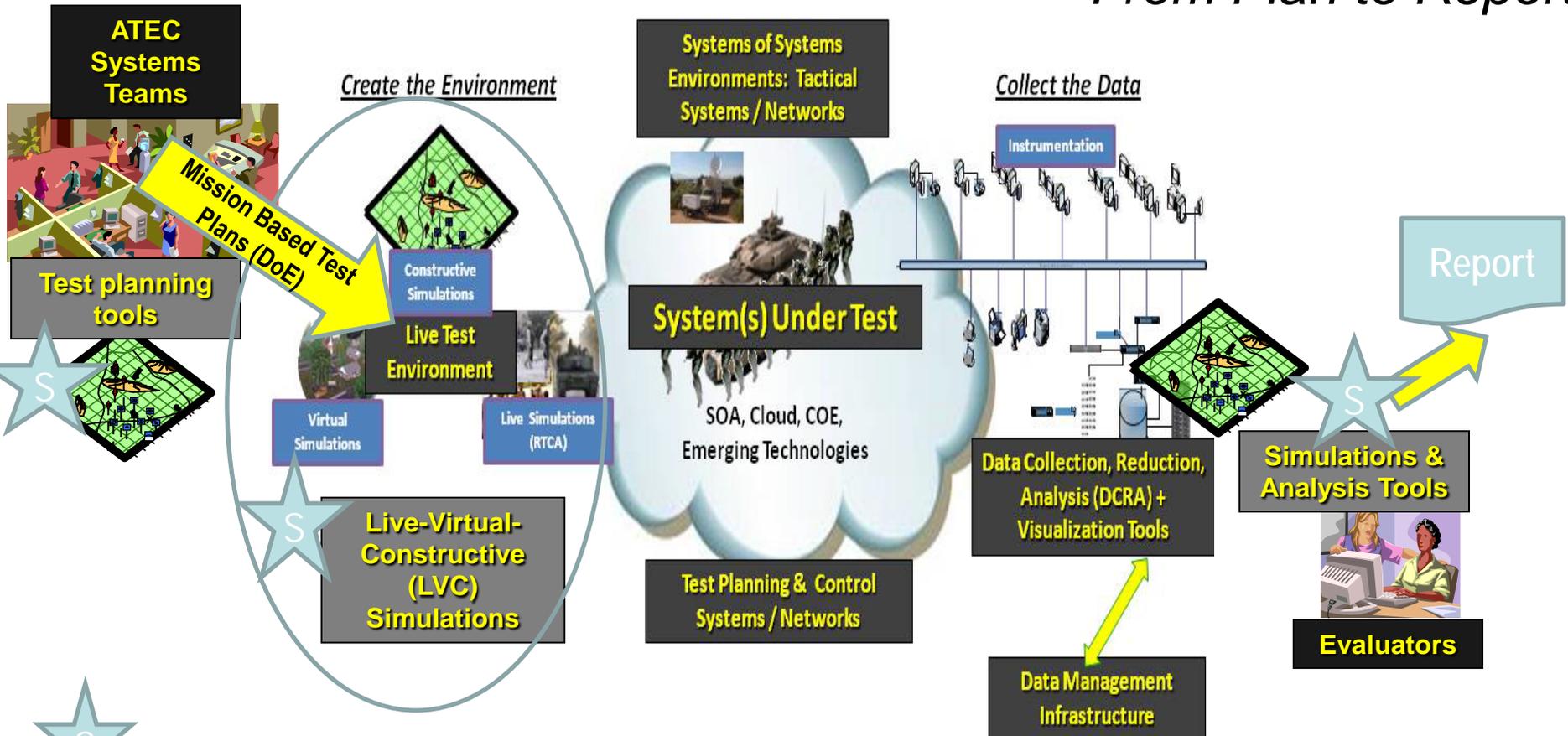
Intelligent Instrumentation

- What is Intelligent Instrumentation?
 - Built and managed to common architecture, interface and data standards across the command as part of a T&E enterprise
 - Employs sampling, fusion and distributed test control methods to collect the right information – type and amount – at the point of collection
 - Moving from appended (“bolted on”) to embedded – AND - closely coordinated with the PM
- Current investments in evolving programs:
 - T&E data requirements added to ground vehicle (VICTORY) standards
 - Test harness for C2 system Common Operating Environment (COE)
 - Embedded data collection modules and SOA/Cloud data collectors
 - Growth of tools, data models and techniques from S&T to test
 - Leverage of RDECs, lab-based risk reduction events

Test & Training Collaboration

- Common challenges of increased systems complexity and constrained resources mandate an even closer partnership
- Mutual test & training challenges
 - Moving from Army to Joint
 - Complex Systems
- Current collaborative efforts:
 - Real-time casualty assessment (RTCA)
 - Common tools

Modeling & Simulation From Plan to Report



- Harness M&S throughout the T&E process: cost-savings AND cost-avoidance
- Revitalized Test-Training Partnership: common tools, shared events
- Developing innovative M&S tools for T&E planning and analysis



Questions?

http://www.youtube.com/watch?feature=player_detailpage&v=qYscemhnf88