

Operational Test Agency Roundtable



Moderator: Dr. Catherine Warner

Science Advisor

Director of Operational Test and Evaluation

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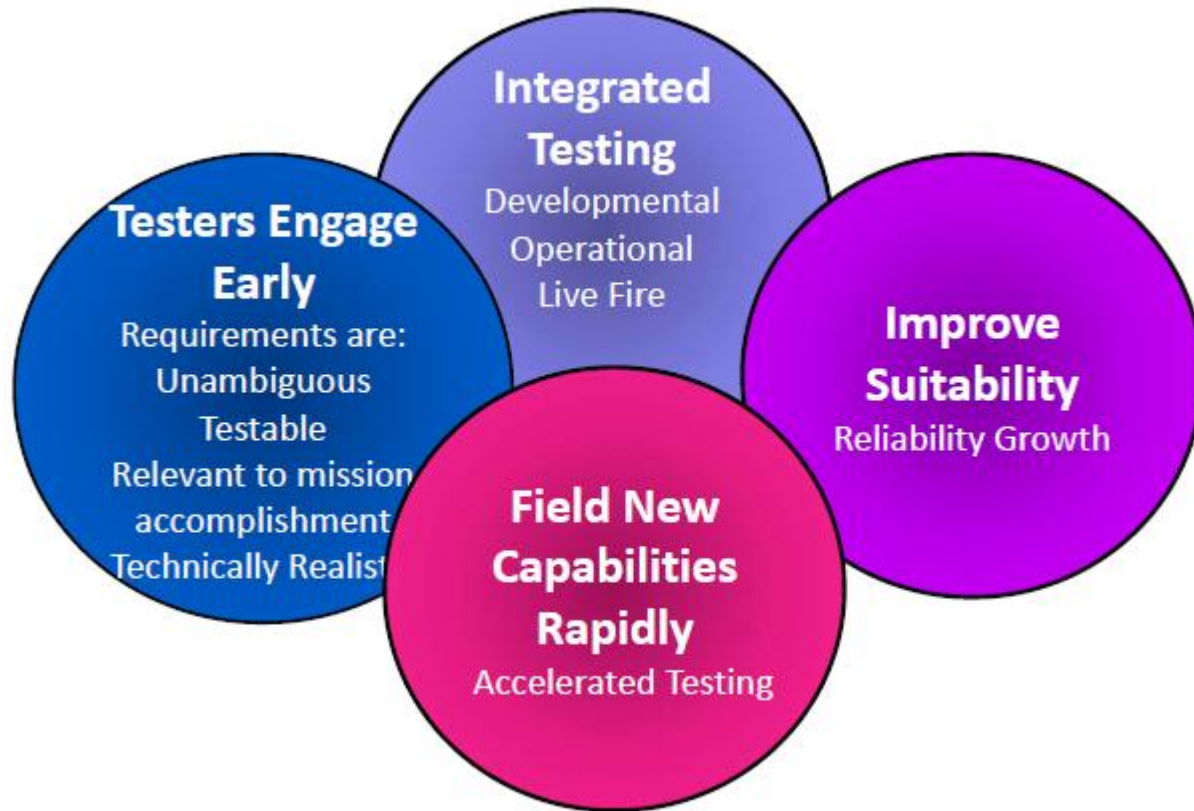


Roundtable Participants

- **Major General Genaro Dellarocco, USA, Commander, ATEC**
- **Rear Admiral David Dunaway, USN, Commander, OPTEVFOR**
- **Major General David Eichhorn, USAF, Commander, AFOTEC**
- **Colonel David Reeves, USMC, Commander, MCOTEA**
- **Colonel Joseph Puett, USA, Commander, JITC**



Current DOT&E Initiatives



Today's focus – Integrated Testing



Integrated Test and Evaluation

- **What is it?**
 - Testing early in mission context and realistic environments
 - An efficient continuum of tests throughout DT, OT, LFT
 - Using data from one type of test for insight into other types
 - Using *all* test data to support evaluations
 - Not a replacement for independent OT&E
- **Why is it important?**
 - Discover problems early when they are cheaper and easier to fix
 - Understand system performance across operational envelope
 - Increase confidence in test results



Scientific Approaches Necessary for Successful Integrated T&E

- **Structured and rigorous statistical tools**
 - Stochastic simulations to supplement field tests
 - Methods for rigorous assessments of small sample sizes
 - Methods to combine data from disparate sources
- **Design-of-experiments (DOE) principles**
 - Quantitative response variables – mission-based for OT
 - Breadth of coverage of the operational environment – including realistic threats
 - Methods for strategically varying operational conditions
 - Objective measures of “How much testing is enough?”
 - Presentation of confidence based results



Opening Question #1

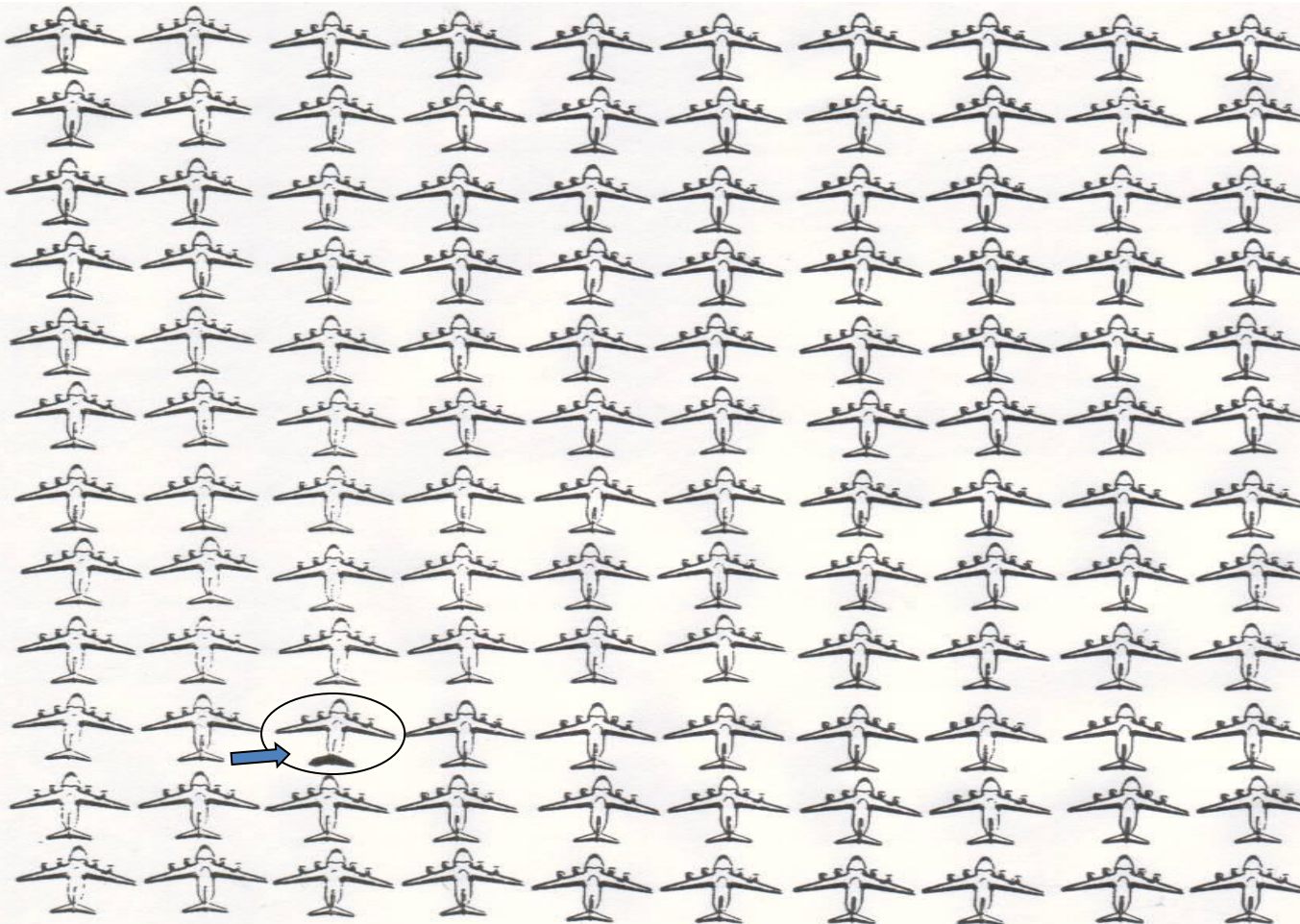
- **How does your command define the mission context to be used in operational tests?**
 - **What is your view of how mission accomplishment should be evaluated?**



Question #2

- **How can (does?) your command enable Integrated Testing to occur in realistic operational environments?**
 - **How much influence can (do?) you have on the developmental test program?**

A "Tail" of Getting Adequate LFT&E Funding



Original planned buy of 120 C-17, approximate acquisition cost **\$3B**

-Cost of the LFT&E program **\$30M (1%)**

Eventual buy over 200 aircraft

-Cost of one tail of one C-17, provided information to improve survivability for over 200 aircraft



Question #3

- **The cost of DT and OT is a small percentage of a program's acquisition costs; however the cost of testing is a large percent of the budget in the fiscal years in which it occurs.**
 - **The current environment of efficiencies appears to exacerbate concerns about the cost of testing.**
- **What do you think can be done to increase the relevance and perceived importance of government testing both DT&E and OT&E - to demonstrate its "worth"?**



Question #4

- **Interoperability is key to US military operations.**
 - **Testing interoperability in a lab environment is straightforward. What are your challenges with testing interoperability in realistic environments?**
 - **What can be done in terms of an incentive structure to get PEOs and PMs to assess their systems early on in a joint interoperability laboratory environment?**



Question #5

- **How do you see the role of M&S in the conduct of OT&E?**
 - **How can DT enable better use of M&S tools in OT?**
 - **How do you foster an appropriate and adequate VV&A program/plan?**