



UNITED STATES ARMY TEST AND EVALUATION COMMAND

Mission-Based Test & Evaluation

NDIA 25th Annual
T&E Conference

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Purpose

- **Inform T&E community peers** of the effort to design and implement a mission-based test and evaluation (MBT&E) methodology.
- **Solicit questions and comments** from peers to help improve the MBT&E methodology.



Agenda

- **Why** was MBT&E developed?
- **What is MBT&E?**
- **What does MBT&E do?**
- **How** is MBT&E implemented?
- **Where** is MBT&E headed?



Why was MBT&E developed?

- Networked system-of-systems
- Address Acquisition Initiatives
- Provide “feedback” to capabilities integration and development

“We will continue to examine and challenge our most basic institutional assumptions, organizational structure paradigms, policies, and procedures to better serve the Army.”

CG, ATEC Commander’s Priorities for FY 10-15



What is MBT&E?

Mission-Based Test and Evaluation

is a methodology that focuses T&E on the **capabilities** provided to the warfighter. It provides a **framework** and **procedure** to:

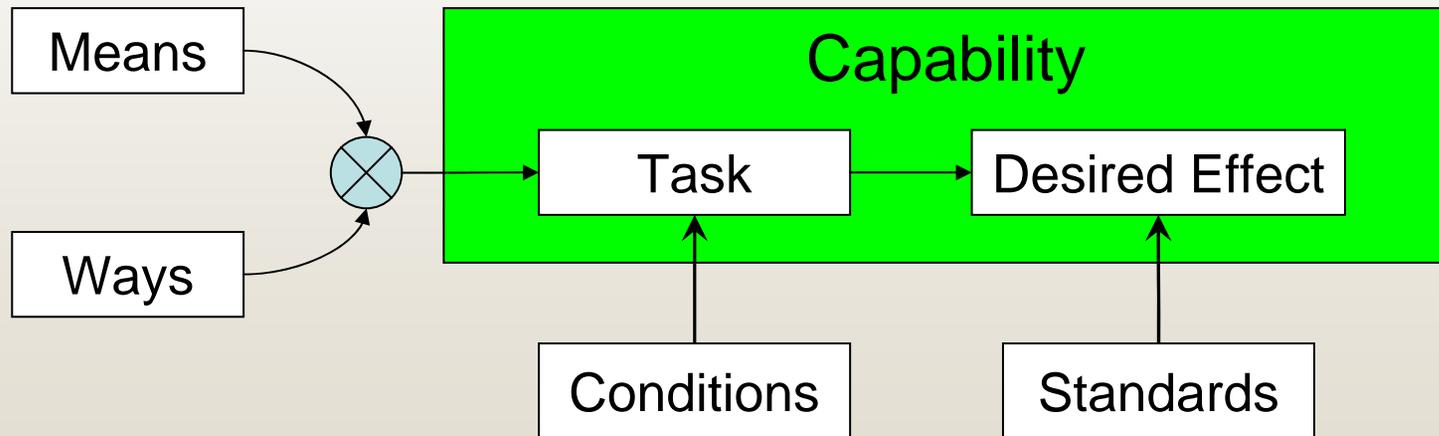
- link materiel system attributes to the operational capabilities;
- examine the SoS required to enable the operational capability; and
- enable synergistic use of all available data sources.



Framework Building Block

Capability¹ – The ability to achieve a **desired effect** [or result, outcome, or consequence of a task²] ...

- under specified **standards and conditions**
- through a combination of **means and ways**
- to perform a set of tasks.



1. CJCSI 3170.01F, May 2007

2. Taken from JP1-02, Mar 2007, definition of effect.

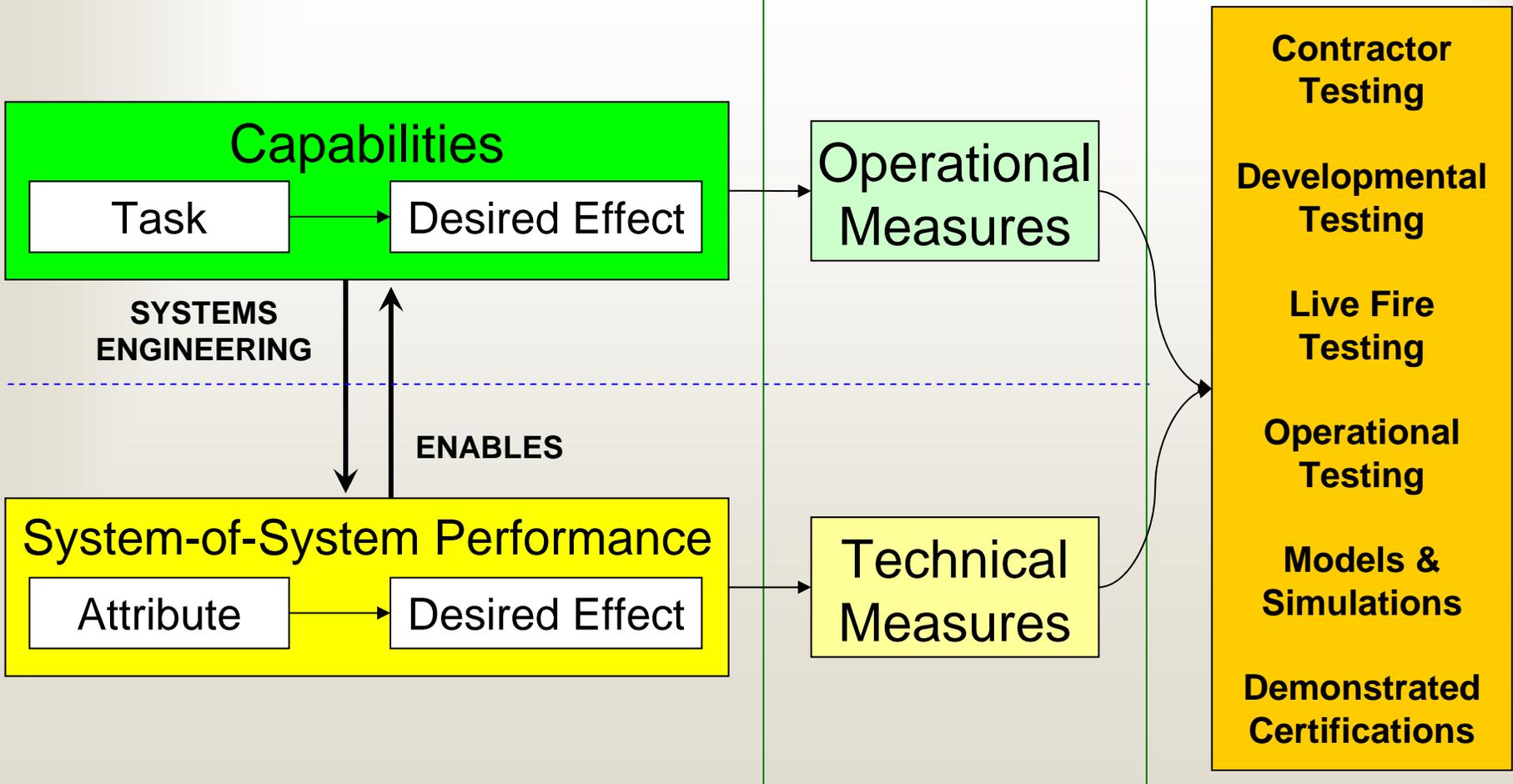


MBT&E Framework

MISSION AND SYSTEM

EVALUATED BY

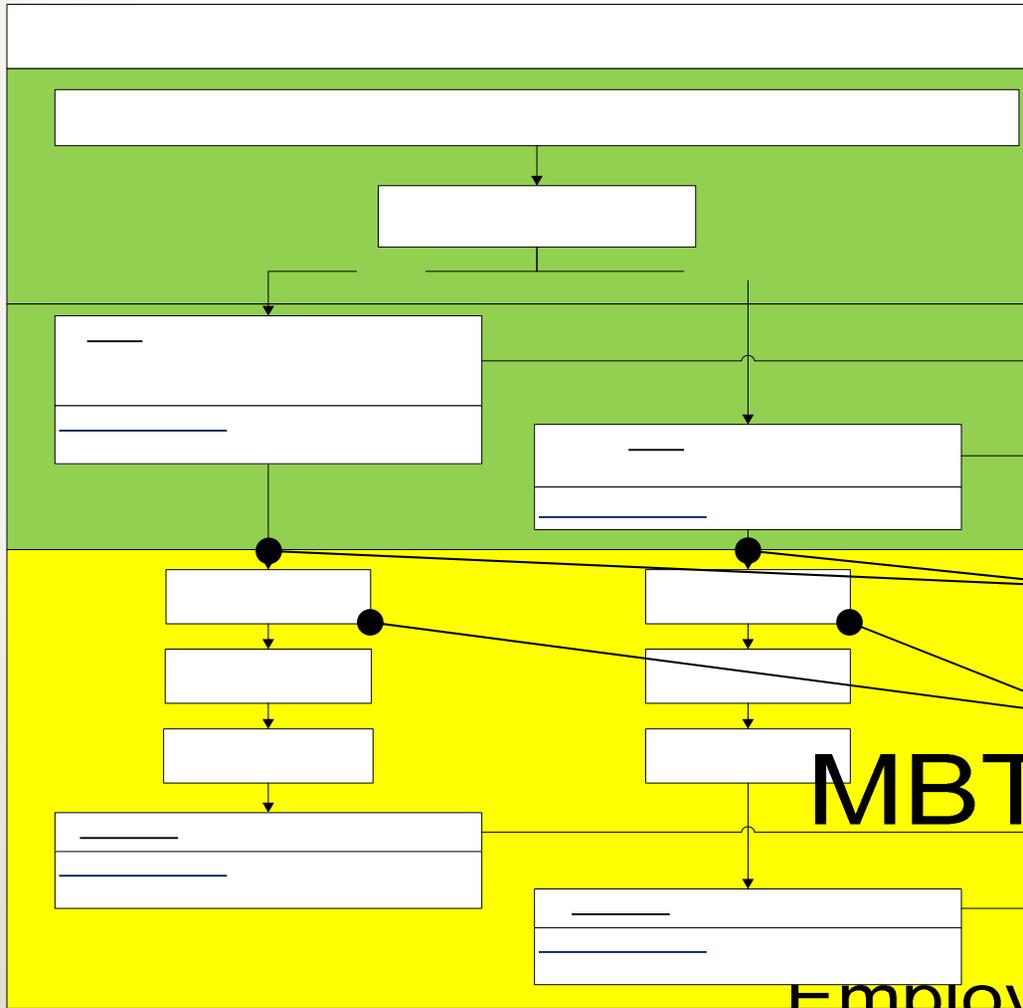
TESTED BY





MBT&E Framework Example

Task Capability Linked to System Performance
 T&E Planning
 T&E Execution



All Available Data Used

●	●	●	
			X
X	X	X	

Attributes Linked to Capabilities

SoS Identified

MBT&E Thread Example

X		X
X	X	

Employ Fires to Influence the

T&E Planning ← T&E Execution

Capability and Performance Linked to Integrated T&E



MBT&E Process

- Process divided into steps.
- Steps divided into 5 major purpose areas.

UNDERSTAND THE MISSION

- Mission and task context.

UNDERSTAND THE SYSTEM

- Materiel components and attributes.
- **Linkages between** mission and materiel.

DESIGN THE TEST AND EVALUATION

- Test design and evaluation measures.

DETERMINE THE RESULTS

- Execute test and evaluation.

REPORT THE RESULTS

- Format and report the results.

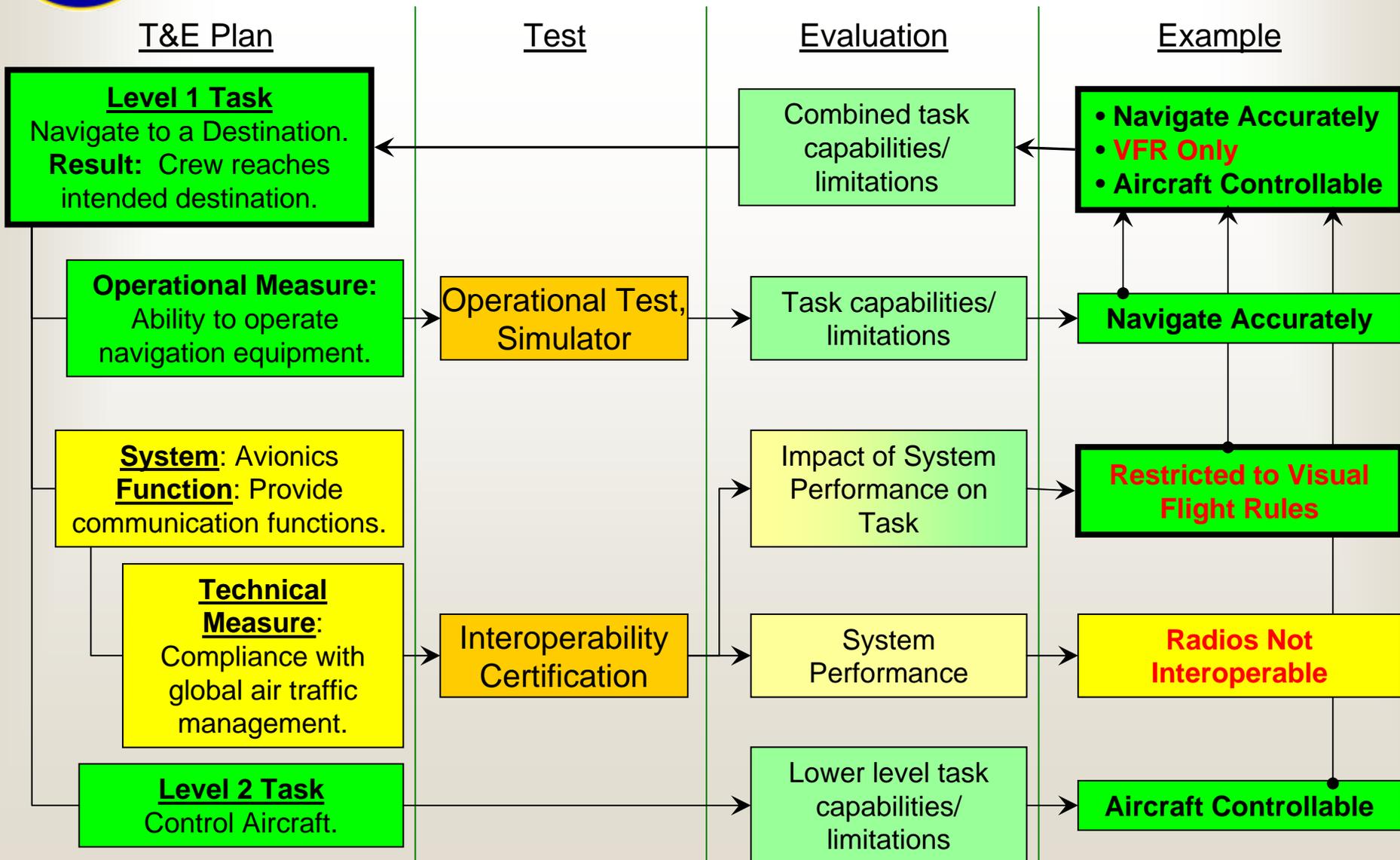


What does MBT&E do?

- Operational capabilities and limitations.
- Materiel system performance and effect on operational capabilities.
- Effectiveness, suitability and survivability based on task.

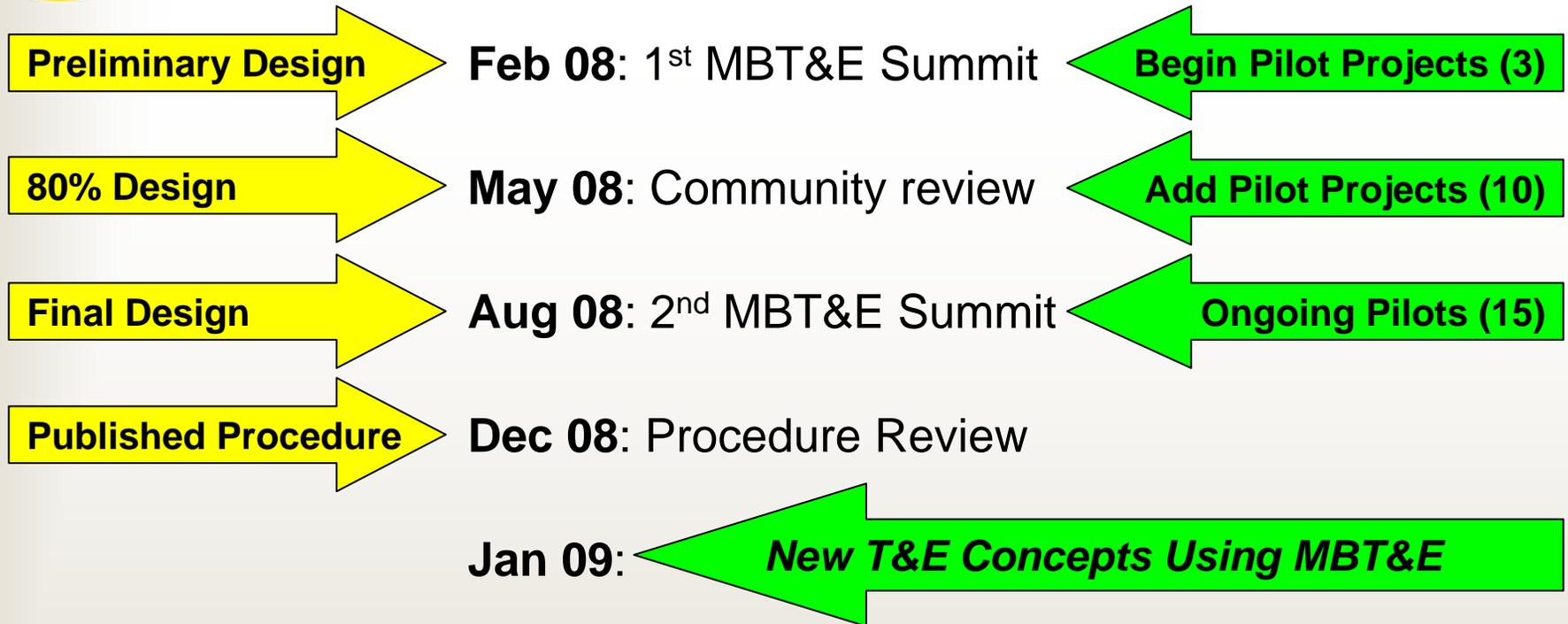


Report Example





How is MBT&E Implemented?



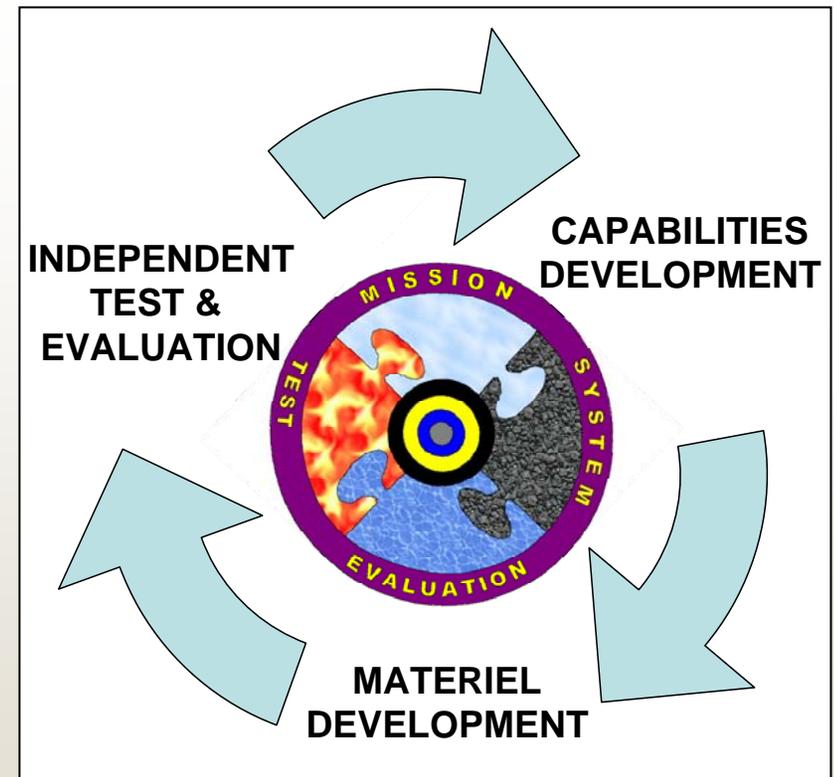
Lessons Learned:

- MBT&E framework providing context of operational capability.
- MBT&E process is executable with current personnel skill set.
- Efficiencies can be increased through:
 - Improved tools (templates, IT, training, etc.); and
 - Combat and materiel developer participation.



Where is MBT&E headed?

- Synchronize with capabilities-based analysis.
- Synchronize with systems engineering.
- Collaborative environment.





Summary

- MBT&E methodology developed.
- Positive results and path forward toward increased efficiencies.
- Aligning the efforts of the capabilities developer, materiel developer, and independent T&E.



MBT&E Point of Contact

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