

# Command & Control Performance Requirements and Assessment for the Air & Space Operations Center

**Sep 06**



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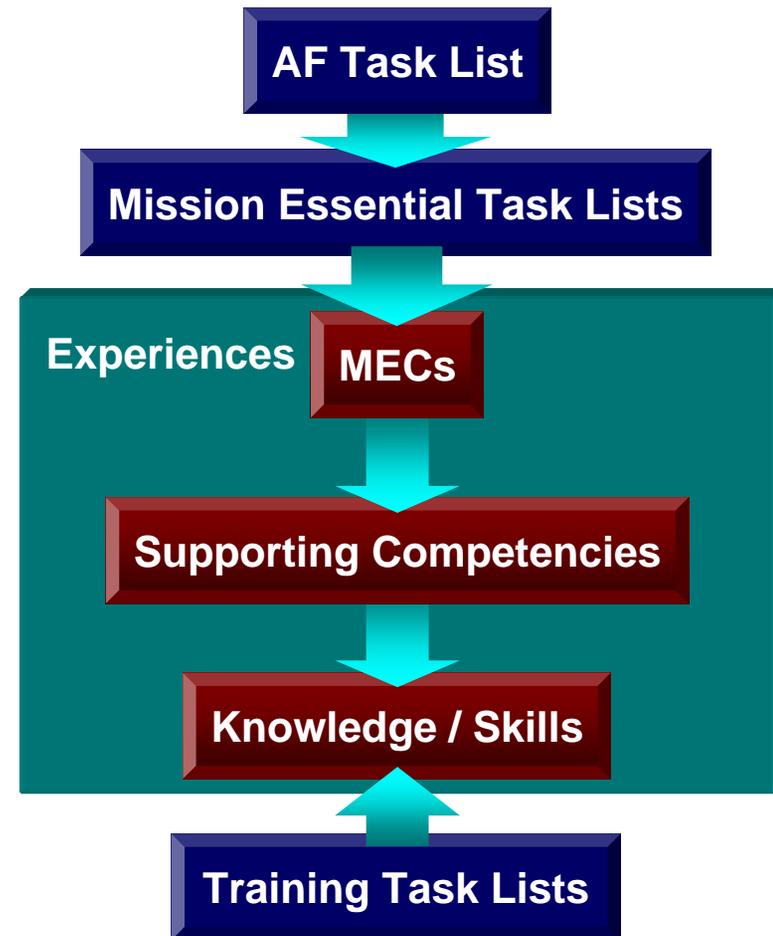
**Air Force Research Laboratory**



# Mission Essential Competencies



- AFTL and METLs describe operational mission-level tasks and objectives
- MECs bridge the gap by describing what you need to “employ” the weapon system to achieve mission-level objectives
- Training Task Lists help teach how to “operate” a weapon system





# MEC Definitions



- **MECs**
  - A Mission Essential Competency (**MEC**) is a higher-order individual, team, and inter-team competency that a fully prepared pilot, crew or flight requires for successful mission completion under adverse conditions and in a non-permissive environment.
- **Supporting Competencies**
  - General **aptitudes** that support the **MECs**.
- **Knowledge and Skills**
  - Knowledge: information **or fact that can be accessed** quickly **under stress**.
  - Skill: **a compiled** sequence of actions **that can be carried out** successfully **under stress**.
- **Experiences**
  - **A developmental event in the training and career of a warfighter that is important either for learning a particular knowledge or skill, or for practicing a MEC or SC under operational conditions.**



# MEC Status



Platform	Development	Analysis	Recommendation	RAP Implementation
F-15C	X	X	X	X
F-16 AA, SEAD, AG	X	X	X	X
A-10	X	X	X	May 06
F-15E	X	X	X	Jul 06
F-22A	Need SMEs			
B-2	X	May 06	Apr 06	May 07
B-1/B-52	X	Feb 06	Jul 06	May 07
Package Commander	X	Aug 06	Dec 06	Jan 07
Joint Stars	X	Feb 06	Mar 06	Jul 06
Rivet Joint	X	May 06		
AWACS/MCS	X	X	X	X
MQ1/RQ4	Unfunded			
JTAC	X	X	X	
TACP	X	Jun 06	Sep 06	
ASOC	X	X	X	
AOC (4 of 5 Div)	X	X	X	By Div/Team
DCGS	X	X	Feb 06	May 06
Coalition MECs	X	X	X	X
IWAS	X	X	Mar 06	
CFACC	X	X	X	Jan 06



# MEC Development & Integration Process



Field Surveys

Validity/  
Reliability  
Checks

Summary  
Analysis

**2<sup>nd</sup> Workshop (Senior Mentors)**

Review & Revise MECs	ID Experiences
Final MECs / Survey Info	

**Data Interpretation (Senior Mentors)**

ID Training Gaps	ID Methods and Media
Conclusions drive future training	

**1<sup>st</sup> Workshop (Senior Mentors)**

Msn Review	Knowledge & Skills	Sup. Comp.
Draft MECs		



# AOC Performance Measurement

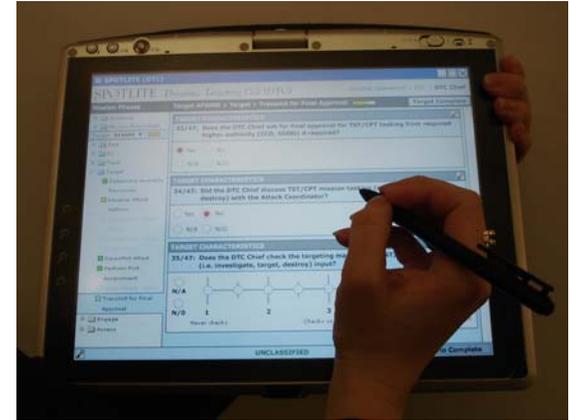


- **Research objective:**

- Design and validate measurement methods, criteria, and tools

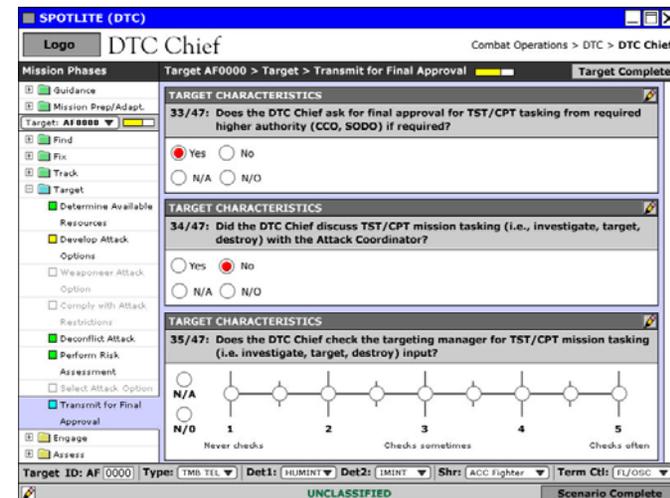
- **Importance to the warfighter:**

- Enables performance-based personnel readiness assessment, not “box-checking”
- Quantitative assessment of training effectiveness



- **Status:**

- Created process to identify performance indicators; e.g., Dynamic Targeting Cell
- Validated metrics at Blue Flag 05-2
- FY06: Def Ops & C2 Plans

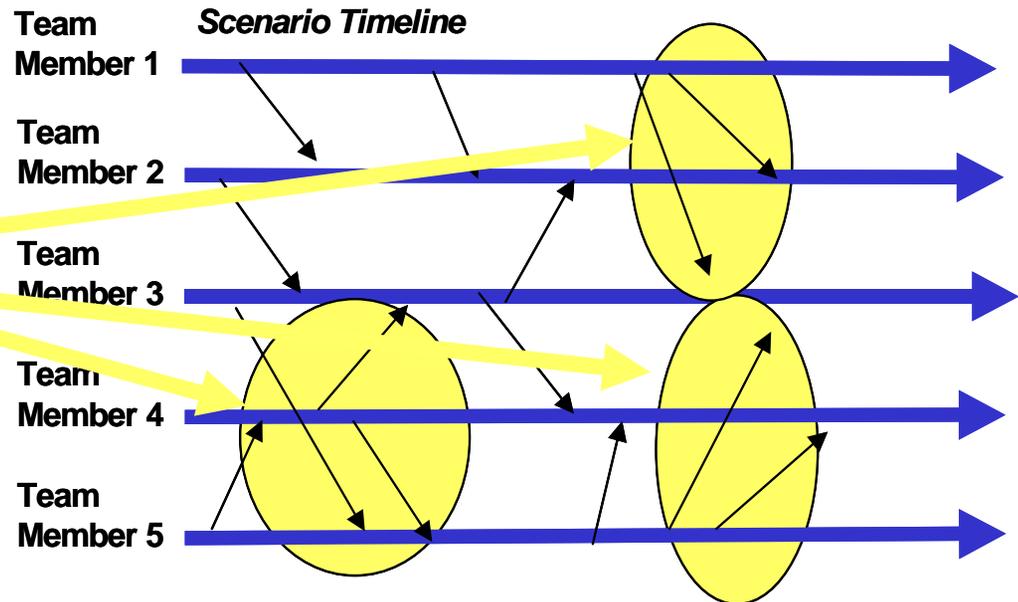
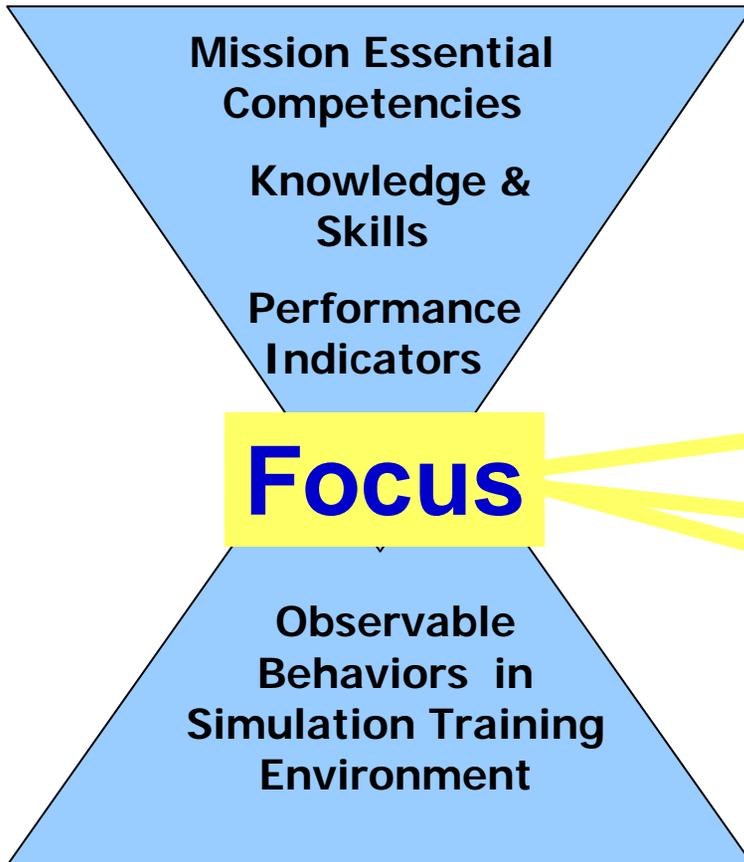




# Approach



*Defined at the mission level*



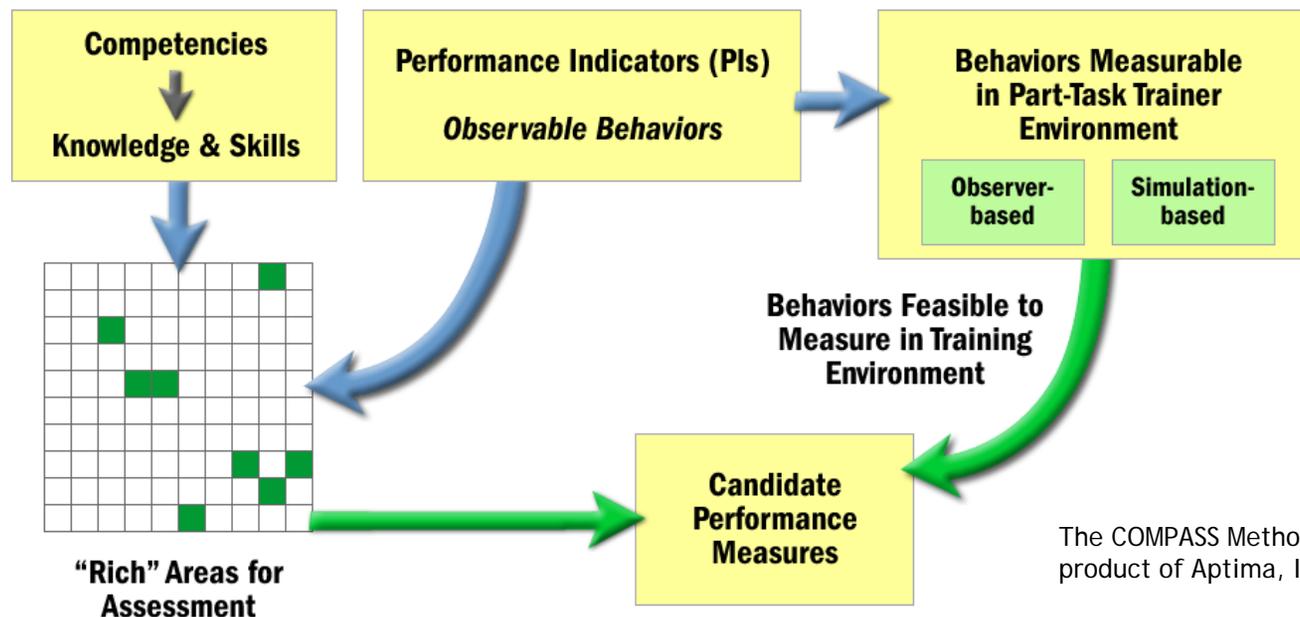
*Specific to a training simulation environment*



# Measurement is Essential for Effective Training



- **The COmpetency-based Measures for Performance ASsessment Systems (COMPASS) Methodology** tells us “what direction to go” with measure development
  - *Competency-based* performance measures
  - **Leverages** *performance theory* in combination with *subject matter expert input*
  - **Assesses** *team and individual* performance



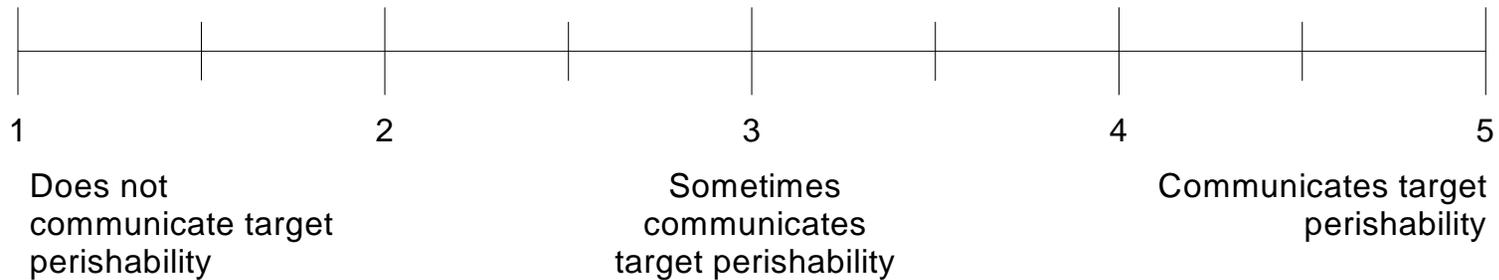
The COMPASS Methodology is a product of Aptima, Inc.



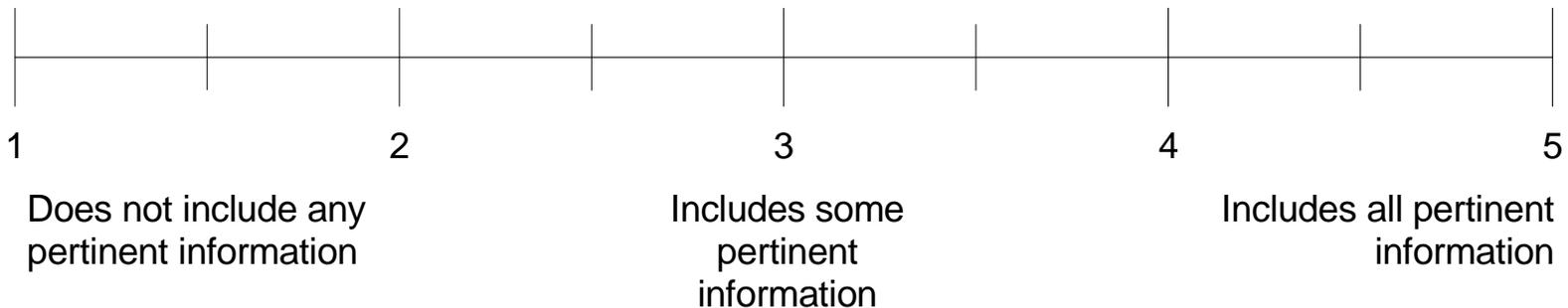
# Example PMs from Workshops 2 & 3



- **Does the DTC Chief communicate the target perishability to the team (i.e., target timeline estimate)?**



- **Does the TDO make a collection request that includes all the pertinent information (EEI, timeline, resolution of image or product, target surveillance)?**





# Current Software Implementation



Spotlite (DTC) Combat Operations >> DTC >> DTC Chief

Logo **DTC Chief** Target Complete

Mission Phases **AF0001 > Target > Final Approval and Im...**

Guidance  
 Preparation/Adaptability

Target: AF0001

Find  
 Fix  
     Identify  
     Establish Window of Opport  
 Track  
     Update Timeline  
 Target  
     Determine Available Resourc  
     Develop Attack Options  
     Deconflict Attack  
     Perform Risk Assessment  
     Select Attack Option  
     Final Approval and Impleme  
 Engage  
 Assess

**TST/CPT TASKING—ATTACK COORDINATOR**

49/62: Did the DTC Chief validate correct TST/CPT mission tasking (i.e., investigate, target, destroy) with the Attack Coordinator?

N/A  
 N/O  
 yes  no

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**TST/CPT TASKING—TARGET MANAGER**

50/62: Does the DTC Chief verify the targetting manager for TST/CPT mission tasking (i.e., investigate, target, destroy) input?

N/A  
 N/O

○ — ○ — ○ — ○ — ○ — ○ — ○ — ○

1                      2                      3                      4                      5

Never checks                      Checks sometimes                      Checks often

Target ID: AF0001    Type: TMP TEL    Det1: HUMINT    Det2: HUMINT    Shr: ACC Fighter    Term Ctl: FL/OSC

UNCLASSIFIED Scenario Complete



# MEC-Based Assessment

**S P O T L I T**

Filter by assessment value:

- Good (yes, 3+)
- Other (no, < 3)
- N/A or N/O
- Not assessed

Organize by:

- Target Phases
- MECS

AF0001

AF1276

**TARGET PHASES**

- Guidance
- Preparation/Adaptability
- AF0001
  - Find
  - Fix
  - Track
  - Target
  - Engage
  - Assess
- AF1276
  - Find
  - Fix
  - Track
  - Target
  - Engage
  - Assess

Performance Measure	Assessment Value	Notes
Does the DTC Chief review updates to relevant guidance (e.g., documents, messages, verbal, chat, tables, AOD, MAAP brief, Commander's guidance)?	Very thorough	
Does the DTC Chief make the D... use of updates to SPINS?		
Does the DTC Chief make th... of updates to ROE?		

Back To Main

Filter by assessment value

Organize by target phase or COD MEC

Target timeline provides performance overview during target prosecution

Detailed view of the performance measure, assessment value, and notes taken

Detailed view of the number and proportion of performance measures for each target/target phase or MEC



# Questions?



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# Extra Slides

