



***ACTD Utility Assessment  
Uses of Operationally-Obtained Field  
Data : Counter Bomb-Counter Bomber  
(CB2)***

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## **Agenda**

- **Issues**
- **Determination of Military Utility**
- **Rigor in Planning**
- **Rigor in Analysis of the Assessment**
- **ACTD / JCTD Projects**
- **ACTD outcomes**
- **Case Study: Rigor in Analysis**
- **Questions**

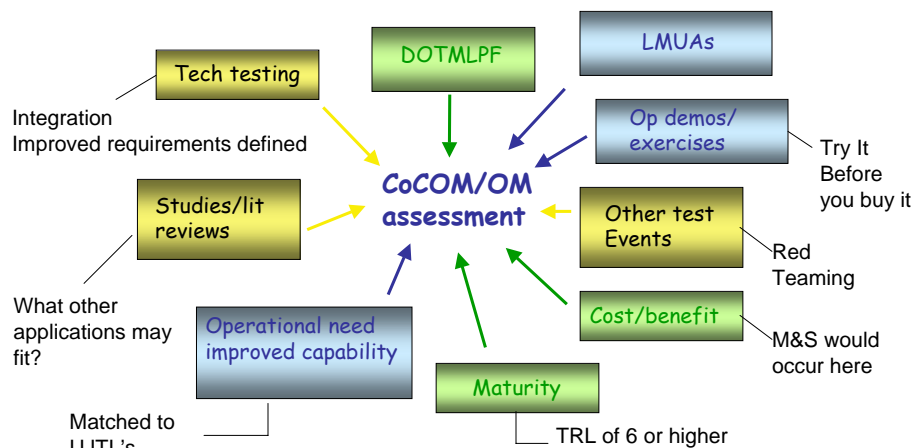
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## Issues

- How can operationally-obtained field data be used as an experimental baseline, or to validate experimental results?
- Can Contractors obtain field data in a timely manner in order to effect design?
- Is it possible to coordinate with field test personnel so data is more readily available?
- Can contractors use matching scenarios in their experiments?

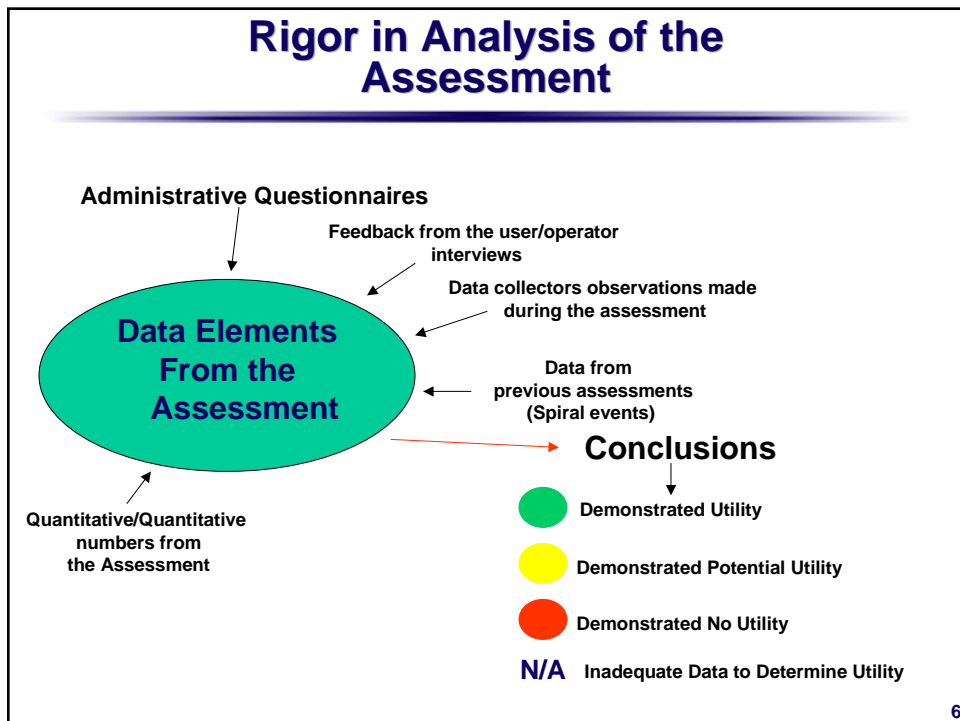
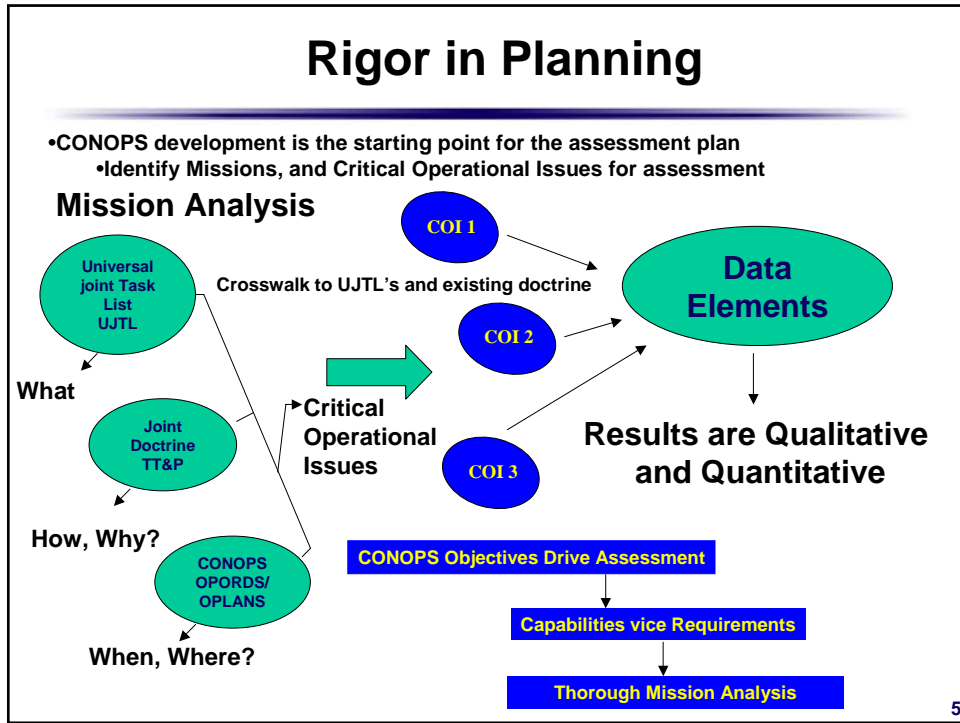
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## Determination of Military Utility



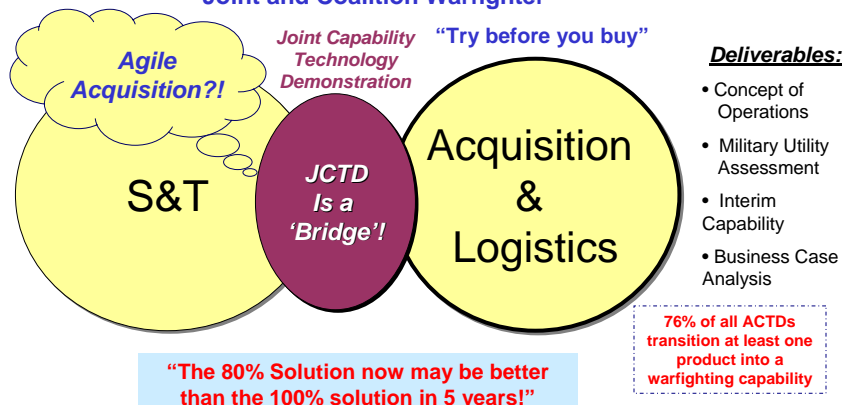
**Military Utility:** "A measure of mission success or improvement in an operational environment, rather than achievement of technical performance objectives."

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## ACTD / JCTD Projects Positioned Between S&T & Acquisition

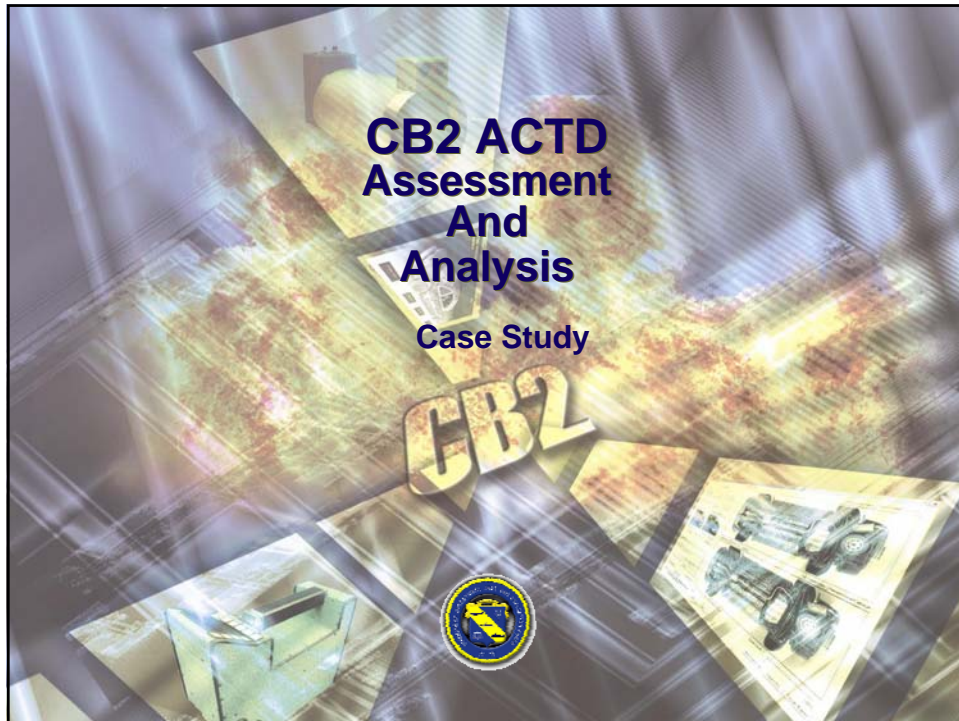
Filling the Gap between S&T and Acquisition for the CoCom Customer—  
Providing Rapid, Responsive & Relevant tools to the  
Joint and Coalition Warfighter



ACTDs & JCTDs are not acquisition programs, but should not be science projects...  
Plan for Transition Upfront & Early!!

## ACTD Outcomes

- Recommend acquisition of the technology to provide an interim and limited operational capability
- Project is terminated or returned to technology base
- User's need is fully satisfied by fielding the residual capability that remains at the conclusion of the ACTD



## Assessment Objectives

- Demonstrate and assess 10 technologies in a layered system of countermeasures to reduce the risk to US facilities
- Demonstrate mitigation procedures using the Emergency Response Team
- Assess CB2-developed concept of operations and tactics, techniques, and procedures
- Provide assessment results for “leave-behind” technologies
- Report on operational performance, operational employment, and operational support

## Assessment Focus

- Do the CB2 ACTD anti-terrorism countermeasures capabilities lower the critical asset risk assessment within the area of responsibility?
- Do the CB2 ACTD anti-terrorism countermeasures capabilities affect mission support?
- Are the CB2 ACTD anti-terrorism countermeasures capabilities suitable for operations?

**Risk = Critical Asset x Threat Probability x Vulnerability**

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## Facility



The assessment area is located in the northeast corner of the controlled area

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## Scenario 1

- Terrorist's objective – show vulnerability of a high profile DoD target in an urban environment

- Leaves IED at the facility's perimeter fence during darkness



- The IED is set to detonate during peak rush hour traffic

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## Scenario 2

- The terrorist team has monitored this target for several weeks and plans a strike at the command and control structure

- The terrorist, a suicide bomber, employs an explosives-laden vest



- The terrorists steal the credentials of one of the employees to enter the building without the use of force

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### Scenario 3

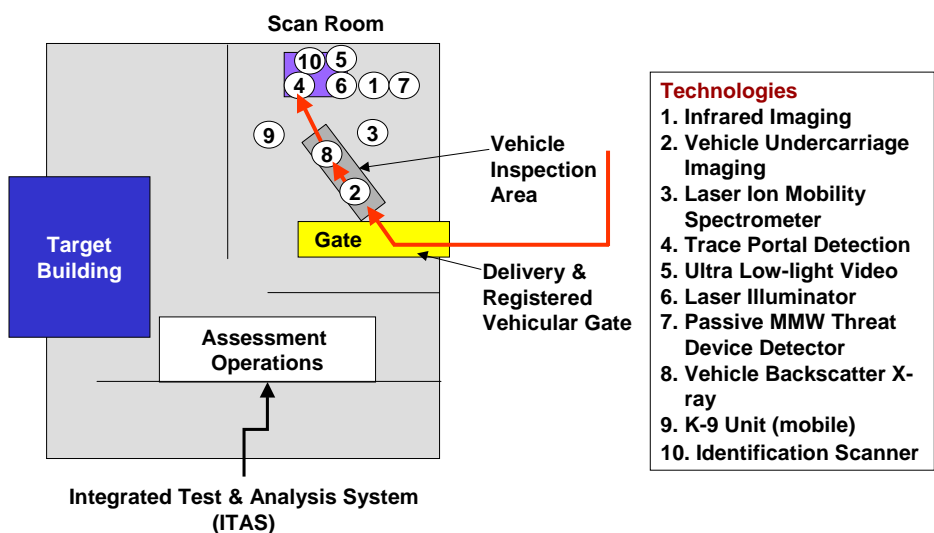
- Terrorist team loads a stolen vehicle with an IED
- A single terrorist drives to the target location and attempts to get as close as possible to the target building before blowing up the vehicle

Involves Emergency Response Team

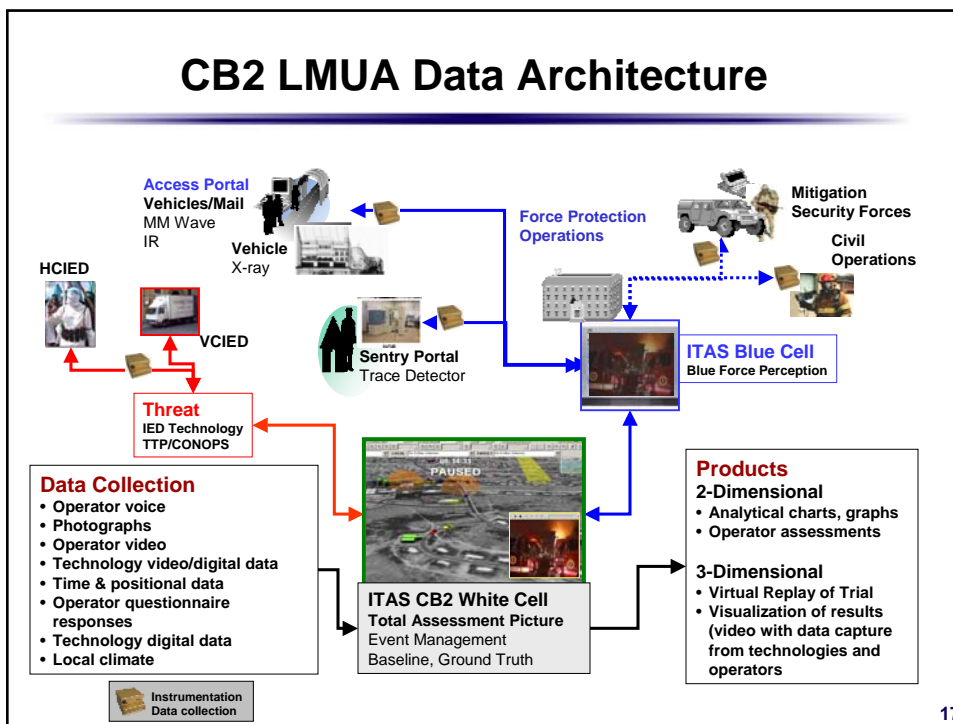


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### Technology Employment



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### ITAS 2-Dimensional Graphic Products

• Do the CB2 ACTD anti-terrorism countermeasures capabilities lower the critical asset risk assessment within the area of responsibility?

**Objective:** Assess reduction in vulnerability of a critical asset after the introduction of new detection capabilities

**Products:**

- Tables
- Line graphs
- Bar charts
- Annotated pictures

**Technology Detection Range Scenario 2 – Suicide Bomber**

	Range (m)	False +
MMW	23	1 of 4
IR	31	0 of 6

Climate: Clear

Sample Products

**IED Detection Scenario 3**

	Detect	False +
X-ray BS	3 of 4	2
Baseline Mirror	1 of 1	0

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## ITAS 3-Dimensional Visualization

### Capabilities

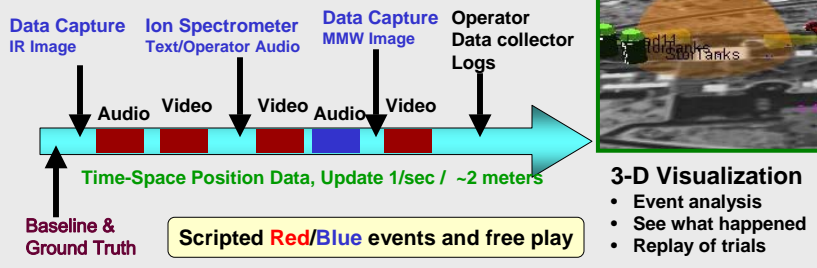
- Scenario development & rehearsal
- Training
- Trial execution
- Correlate multiple data inputs
- Virtual representation of test trials
- Assess CONOPS and TTPs

### Products

- Virtual replay of trial
- Visualization of results
- Dissemination of 3-D virtual results



### Scenario Timeline

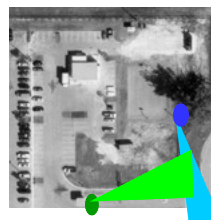


## ITAS 2-D and 3-D Analytical Products Optimize or “Table-Top” Tactical Employment

“Table-top” and “what if” virtual gaming of detection, identification, and mitigation capabilities

### Tactical Support Functions

- Optimize technology placement
- Use “real” performance data from technical/operational trials
- Assess system of systems architecture
- Augment Miami-Dade Emergency Response Team involvement
- Adjust and tune operational TTPs and CONOPS



## Questions ?

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