

# ***DISRUPTIVE TECHNOLOGIES***

## ***A Combatant Command Faces the Challenge***



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***4 September 2007***

This brief is:  
**UNCLASSIFIED**



# Overview

- **Purpose**
- **Definition**
- **Areas of interest**
- **Moving forward ... currently working**
- **Staying ahead of disruption**



# ***Purpose***

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- **Suggest areas in which the U.S. might leverage technology advantage**



# ***Disruptive Technologies Definition***

**Technical innovations – capabilities, processes, or procedures – that overturn existing, dominant technologies and prevent users of the existing technologies from achieving intended effects.** Bower & Christensen, “Disruptive Technologies: Catching the Wave,” *Harvard Business Review*, Jan-Feb 95.

## **USPACOM Focus:**

- **An external initiative, adversely impacting U.S. intended effects**
- **U.S. initiative, either favorably impacting U.S. operations or adversely impacting a potential adversary’s intended effects**



## ***Areas of interest . . .***

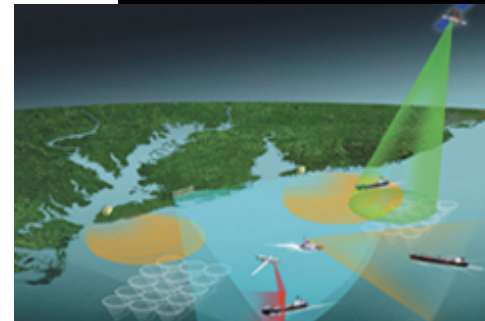
- **Persistent ISR/All Weather Sensors**
  - Tactical Satellites/UAVs
- **Communications**
  - Minimize effects of communications/navigational losses
  - Agile frequency ranges
- **Computer network defense**
  - Individual and network intrusion detectors and identifiers
- **Rapidly changing tactics for terrorist operations**
  - IED detection & Non-lethal capabilities/ information operations
- **WMD detection**
  - Ability to detect various sources and distribution means
- **Biometrics**
  - Ways to provide more secure physical and computer assets
- **Energy Alternatives**
  - Tactical (Extended battery life)
  - Strategic (Alt energy sources to lessen dependence)



# Moving forward... currently working

## Synergy of S&T and COCOM Experimentation

- **WMD Detection**
- **Persistent ISR**
  - UAVs/Airships/Space
  - Net-Centric Operations
- **Agile and secure C2**
  - Comms at Speed and Depth
  - Secure networks
  - Multinational and Interagency Coordination/Interoperability
- **Force Protection**
  - Non-lethal capabilities
  - IED detection and mitigation
- **Maritime Domain Awareness**
  - Find, Fix, Track, Target
  - Maritime Interdiction



## Transitioning Successes



# ***Staying ahead of disruption . . .***

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- **Avoiding technological surprise**
  - Understand emerging and commercial technologies & implications
  - Predictive modeling (social and behavioral)
- **Identifying technologies we rely on**
  - Exercise & experiment on how we operate without them
- **Without a mitigating technology, developing TTPs to address shortfalls near term**
- **Leverage modeling and simulation for wargaming, experimental testing, and discovery**
- **Develop means to rapidly insert technologies in a conflict (e.g., USPACOM S&T Cell during exercises)**
- **Align DoD acquisition system to support emerging disruptive technologies**



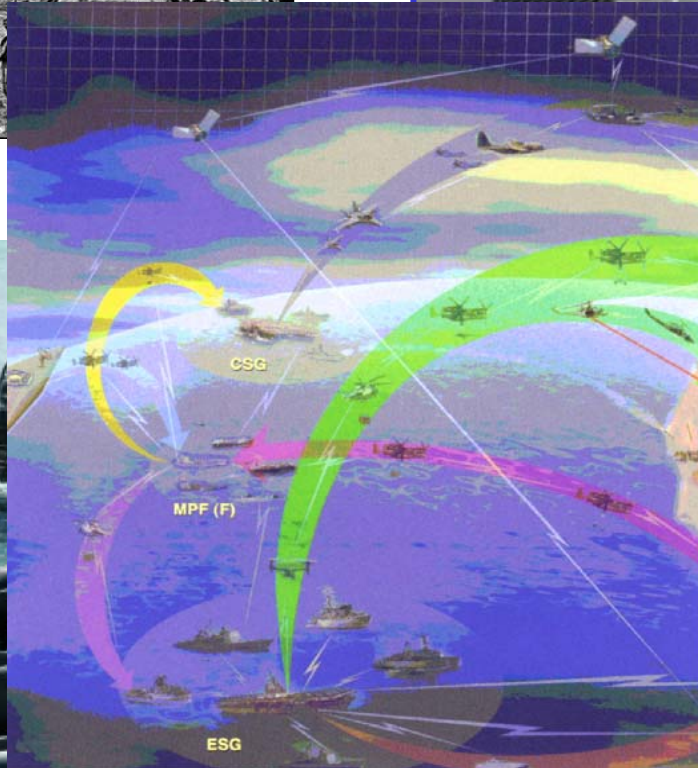
# Disruptive Technologies Transform the Force



**Forward Observer  
Civil War, 1863**



**Forward Observer  
Talisman Saber, 2007**



Service  
Transform  
must su  
Joint  
Transform

Coalition  
Interoperability  
and  
Commonality  
are Key





# Contact

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# How Does it Work?

## ...A Snapshot of the Overall Process (U)

