DISRUPTIVE TECHNOLOGIES
A Combatant Command Faces the Challenge

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This brief is:
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Overview

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

• Suggest areas in which the U.S. might leverage technology advantage
Disruptive Technologies Definition


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 . . .

• 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

Service Transformation must support Joint Transformation. Coalition Interoperability and Commonality are Key.

Forward Observer
Civil War, 1863

Forward Observer
Talisman Saber, 2007

Coalition Interoperability and Commonality are Key

The future is now
Disruptive Technologies Transform the Force
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How Does it Work?

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

- Focus on USPACOM Plan-based Requirements
- Collect Challenges & Opportunities
- Assess adequacy of experimentation efforts
- Find & Match Candidate Solutions to Challenges
- Prioritize Challenges & Opportunities
- Analyze Alternatives
- Allocate Solutions to Experiments
- Integrate Experiments into Exercises
- Leverage exercises & Minimize impact on training
- Experiment on Solutions
- Transition the Winners
- Losers
- Assess & Validate
- Experimental capacity
- Promising but not ready
- Solution Partners:
  - OSD ATL
  - Labs/S&T
  - SYSCOMs
  - Industry
  - Academia
  - FFRDCs
- Experimentation not required
- Experimentation in JFCOM or other COCOMs
- S&T Outreach & Interchanges
- Look at both technology & Concepts D-O-T-M-L-P-F
- Analysis of Alternatives
- S&T Cell / Database
- CDR’s Guidance Gap Assessment IPL
- Gap Assessment
- System Acquisition
- Program of Record, JUON
- Doctrine
- Concepts
- Outcomes

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