

Joint Capability Technology Demonstration (JCTD)

**United States Coast Guard – Department of Defense
Collaboration and Innovation via the
Joint Capability Technology Demonstration Program**





OSD/AT&L/DDR&E/AS&C Mission



Office of the SECDEF / Acquisition, Technology & Logistics /
Director Defense Research & Engineering / Advanced Systems & Concepts



- **Find, Demonstrate, Prototype, Transfer and Transition** operational concepts and technologies for **multi-Service, Joint & Coalition Warfare Needs**
- Leverage RDT&E Defense-wide resources through partnerships with Services and Agencies to meet the **Most Critical Needs** of the joint warfighter as defined by **Combatant Commanders (CoComs)**
- **Induct Innovative Technologies** inside the traditional Planning, Programming, Budgeting, and Execution (PPBE) process that result in an enduring **Capabilities-based Portfolio** to defeat asymmetric threats

Thrusts: Agile, Adaptive, Affordable, Relevant, Urgent, Enduring, Transition



Joint Capability Technology Demonstration (JCTD) Program



- **Objectives:**
 - Evaluate operational utility before committing to acquisition
 - Develop corresponding concepts of operations and doctrine
 - Rapidly provide operational capability
 - Coordinate transition of successful demonstration capabilities
- **Customers: Combatant Commands, Coalition and Interagency Partners**
- **Partners: COCOMS (Sponsor), Services, Service Labs, Industry, Coalition, Interagency, Interagency Labs**
- **Project Characteristics:**
 - Mature technologies: initial spiral in 1 year, final demo 2-3 years
 - Emphasis on Concepts of Operation
 - Includes formal Operational Utility Assessment by independent test agency
 - Typically \$10-50M total
 - Must address Joint or Coalition or Interagency capability need
 - Multiple funding sources (10-50% from Dep Und Sec Def (Adv Sys & Concepts))
 - Must have Transition strategy, or be revolutionary
- **Management:**
 - Senior Oversight Group (DUSD(AS&C), COCOM DepCDR, Transition Exec, Agencies)
 - Technical Manager (Government)
 - Operational Manager, typically O4-O6, can be non-DoD Agency
 - Transition Manager (Government)



Why consider JCTD approach?



- **Proven successful processes**
 - Collaborative integration and demonstration
 - Multiple Military Departments, DoD Agencies, non-DoD Agencies, Other Government Departments, International partners, Industry
 - Management
 - Technical, Operational, Transition
 - Senior Oversight
 - Policy and Legal interfaces
 - Within DoD, including international collaborations
 - National level and other gov't departments
- **Rapid Capability Delivery**
 - 1-3 years from project start
- **Outstanding Transition Record**
 - Multiple studies indicate 80% of projects transition to programs of record or sustained operations

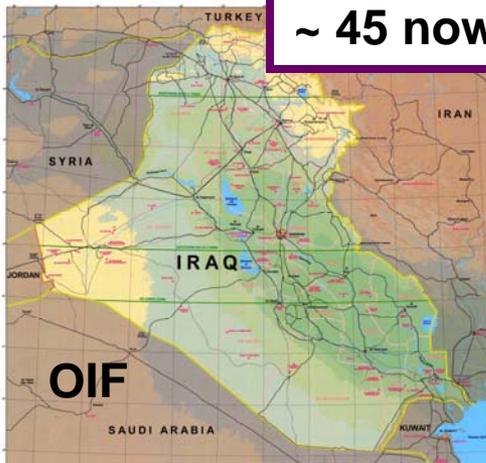


ACTDS & JCTDS in OAF - OEF - OIF - ONE

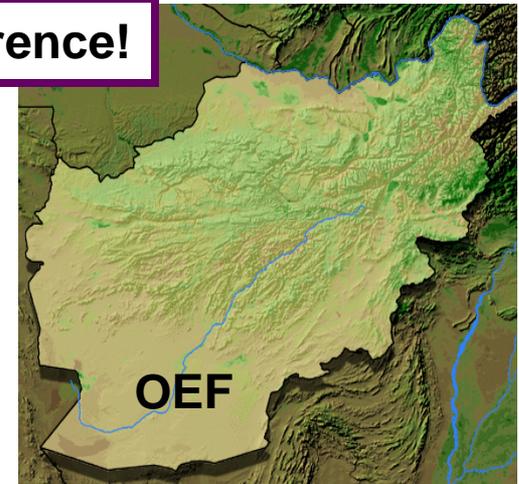


Operation Allied Force – Operation Enduring Freedom – Operation Iraqi Freedom – Operation Noble Eagle

- 38 Completed ACTDs deployed to support contingency operations
- 28 'Active' ACTDs & JCTDs deployed



~ 45 now deployed - making a difference!



Deploying.... MAP-HT & Focused Lethality Munition

40% of ACTDs and JCTDs started have deployed immediate or residual capability!!!



USCG – DoD Collaboration Example: Comprehensive Maritime Awareness JCTD



Multi-Level Enclaves Provide Appropriate Level Data To Customers

Multi-Level Data Sources

National WorkStation - SCI

- NTM Data sources

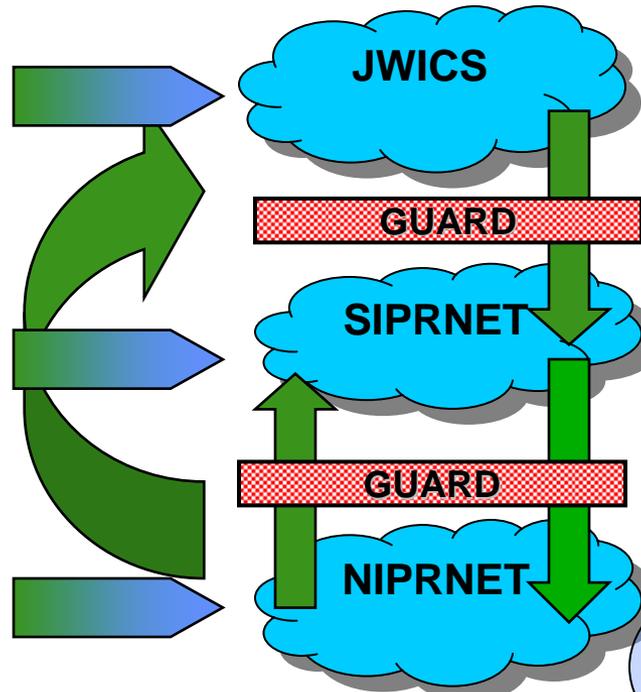
**Restricted WorkStation
SECRET**

- JOINT MARITIME INFORMATION EXTRACTION (JMIE)
- SEAWATCH
- INTEGRATED BROADCAST SYSTEM (IBS)
- MATCH LITE
- Other US Interagency (CBP, TSA, DOJ, ...)
- International Partner data

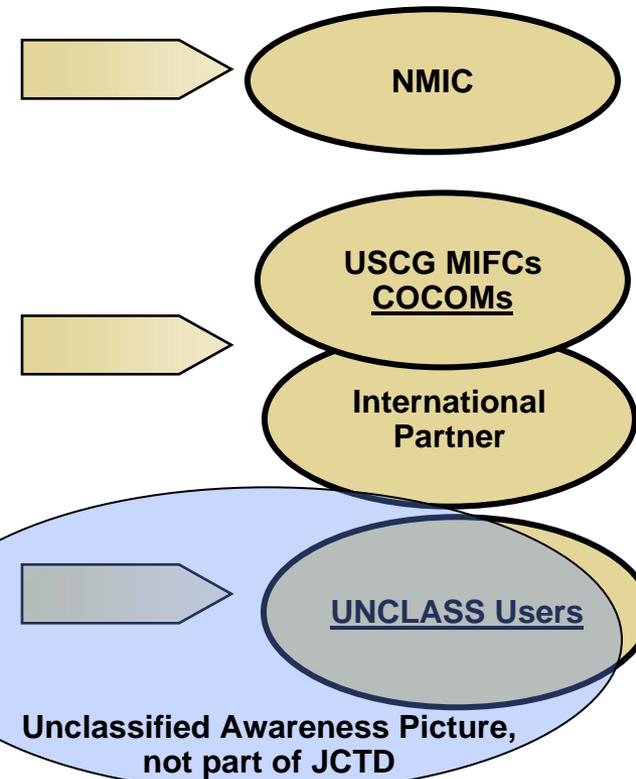
Open WorkStation- UNCLASS

- USCG Coastal AIS
- INTERNET NOAA SHIP WEATHER POSITION REPORTS
- OPEN SOURCE (INTERNET)
- USCG LE
- Other US Interagency (CBP, TSA, DOJ, ...)

Track Fusion & Dissemination



Customers





CMA Project Execution

CY06

CY07

CY08

Baseline Exchange:

- CENTRIXS-CMFP
- 2-Way Data Exchange
- E-mail/Chat/Web Svcs
- Security Guards

Operate →

Integrate New Capabilities

- USCG Vessel Tracking
 - Multi-source track stitching
 - Track Quality
- User-defined alerts
- DARPA tools for Maritime COP and behavior analysis (C6F)
- Services Oriented Architecture

Operate →

Net-Centric Interagency Exchange

Demonstrate:

- Interagency exchange
- Net-Centric Info Mgmt
- Improved MDA

Integrate, Evaluate →

Integrate, Evaluate →

Ongoing:

- CMA Arch Working Group
- MDA Comm of Interest Data Sharing Model WG
- CONOPS/TTPS



CMA Collaboration Success



Contributions

USCG

- Operational expertise
- Facilities
- Assessment

DoD

- Funding
- Technology
- Facilities
- Assessment

Take-aways

- Hardware/Software
- Transition

- Hardware/Software
- CONOPS
- Transition

Joint Capability Technology Demonstration (JCTD)

Joint Capability Technology Demonstration collaboration between DoD and USCG - leveraging DoD's multi-Service/agency efforts

FUTURE COLLABORATION POSSIBILITIES

Joint Medical Distance Support & Evacuation (JMDSE) JCTD (pre-decisional)

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JMDSE JCTD PROBLEM SPACE

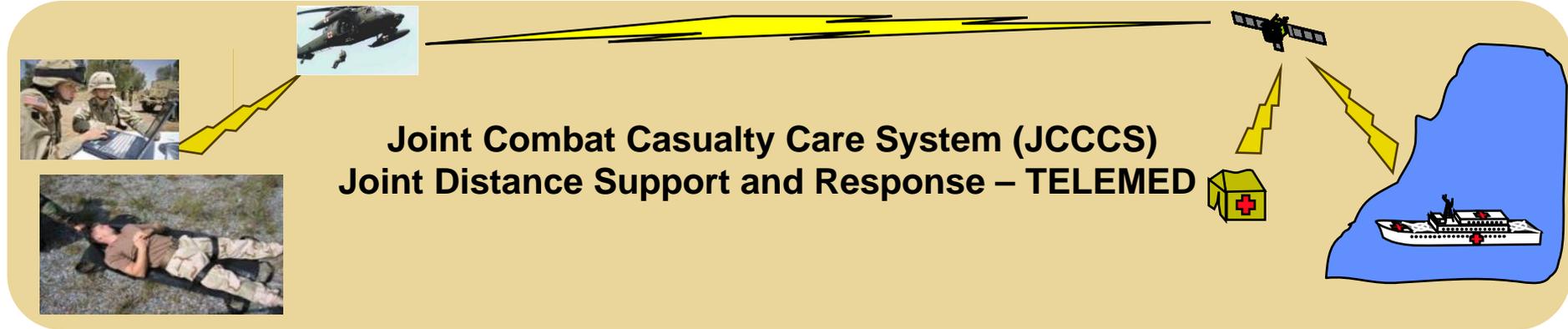


- **The Situation:**

- Extend casualty care to distance monitoring and care on a discontinuous battlefield on land/sea
- Provide for virtual triage
- Provide real-time reachback from battlefield to forward care facilities
- Protect CASEVAC forces by evaluating medical situations at a distance and applying medical care triage
- Provide critical medical care to forces in denied or remote areas unreachable by CASEVAC forces
- Precision medical supplies/eqpt. Delivery
- Improved casualty extraction



Capabilities Solution



- Remote Casualty Care on the battlefield and at sea
- Virtual triage (monitoring and automated casualty care)
- Automated Monitoring and Care stations connected to litter and to CASEVAC force at a distance



- Ultra Light Weight (ULW: 250-700 lbs) Medical delivery
- Micro Light Weight (MLW: 10-150 lbs)
- Test Platforms: HH-60, CH-53, C-130, C-17, V-22, UAS
- Quick reaction response to BIO WMD attack scenarios

Joint Medical Distance Support and Evacuation (JMDSE)

Operational View-1

- Mitigate problems associated with the low density, high demand CASEVAC forces
- Provide virtual/distant triage capability on a discontinuous battlefield
- Improve survivability and readiness of medical forces
- Provide medical reach-back from First Responder to Forward Resuscitative Care facilities



CONOPS

- Distant Triage – Helo, Ship, Ground
- CASEVAC Helo medical comms with FRC
- Reach-back in/out of Theater
- Precision delivery-medical (UAS, Helo, fixed wing)
- Evac critical injured by UAS VTOL and/or Helo



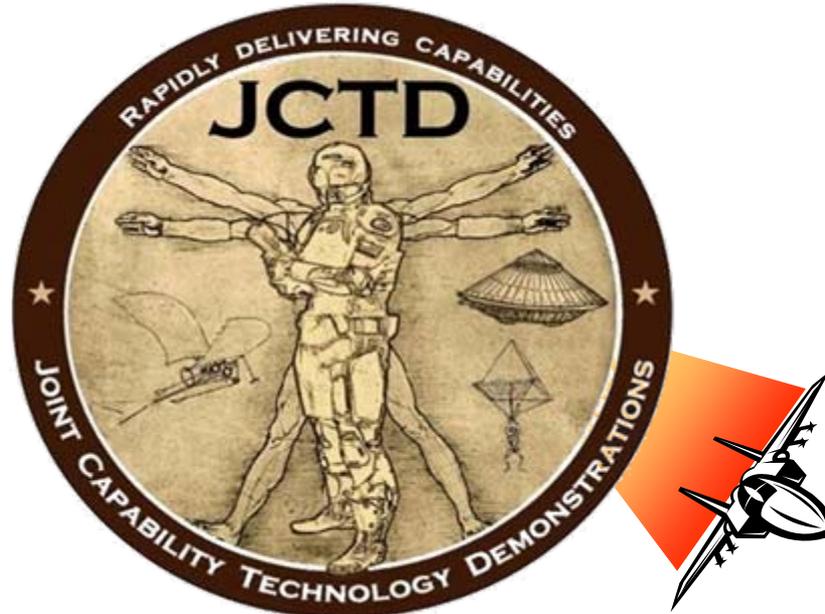
POINTS OF CONTACT



- **Sponsor: JFCOM Surgeon, ADM Mittleman**
- **Lead Organization: USAF SGR- Brigadier General (Dr.) Casey**
- **Operational Manager: LCDR Greg Cook (JFCOM), Command's Surgeon Office – gregory.cook@jfc.com**
- **Technical Manager: Major Dan Wattendorf, AF SGR office, daniel.wattendorf@pentagon.af.mil**
- **Transition Manager: USMC and SOCOM Surgeon office**



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