

Fort Huachuca -

dcn: 9880

*The Home of Intelligence, Information,
& Electronic Testing*



Relevant then...



Relevant now...



Relevant for the future!



Briefing Take-Aways

**Southwest Defense
Complex**
- Unique Capability

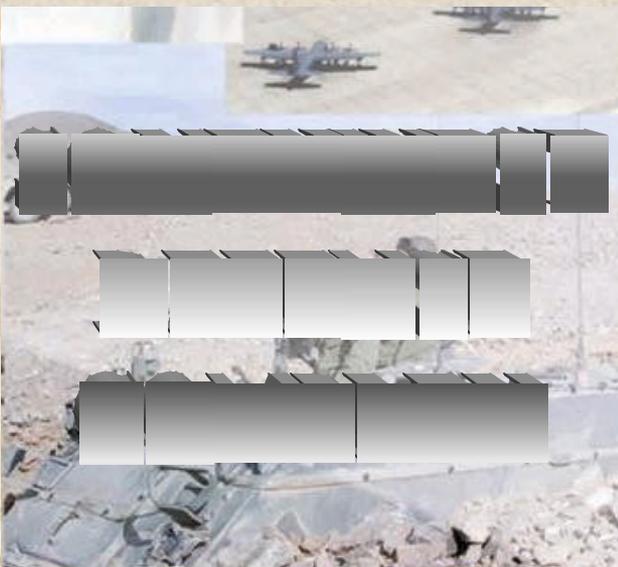
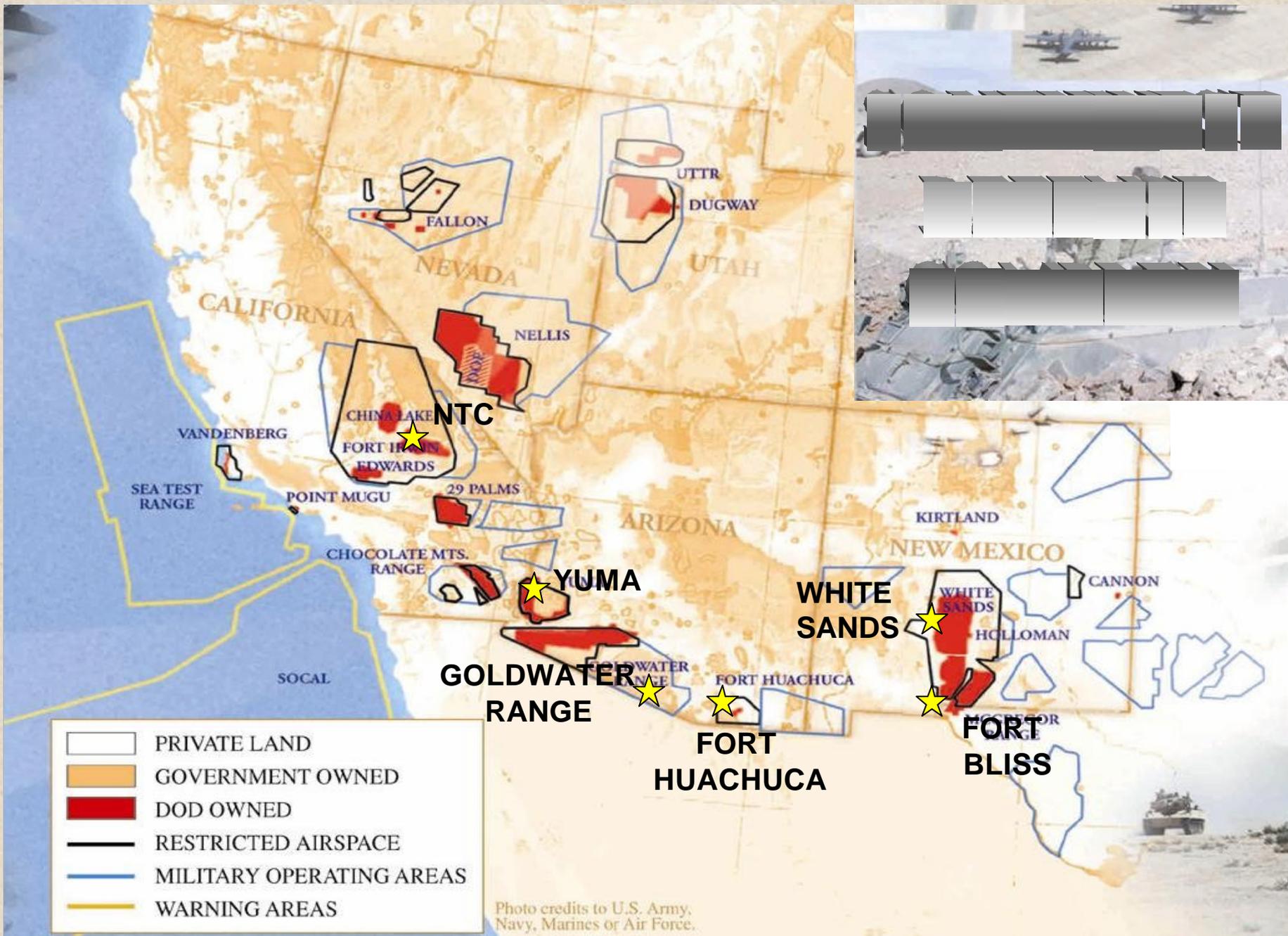
**Multi-capable
Platform**
**- Joint and
Army**

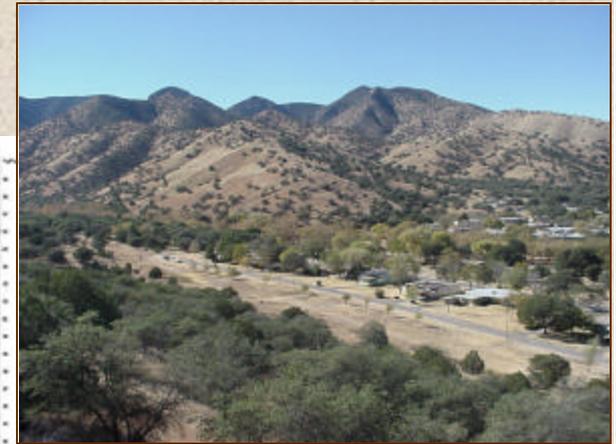
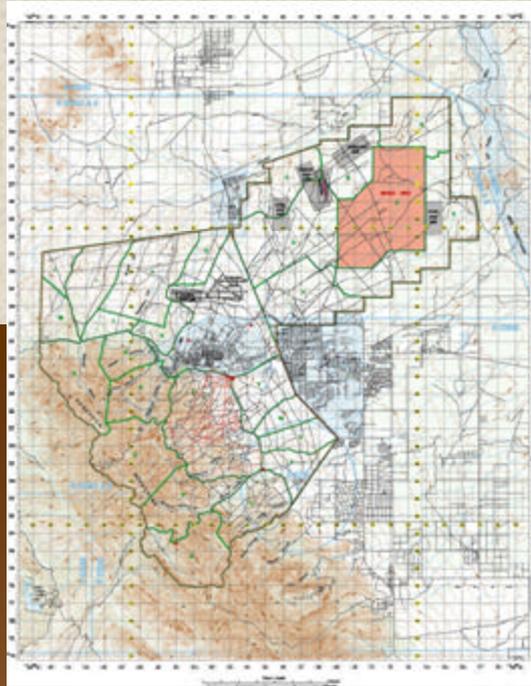
C4ISR
Center of Excellence (CoE)
**- Relevant
Today & Tomorrow**

**Environmental
Excellence**
**- Postured for
Growth**

**Community
Partnership**







Ft. Huachuca

➤ Military Reservation:

- ◆ 73,272 acres
- ◆ 67,000 acres for training
- ◆ 6,000 acres main post

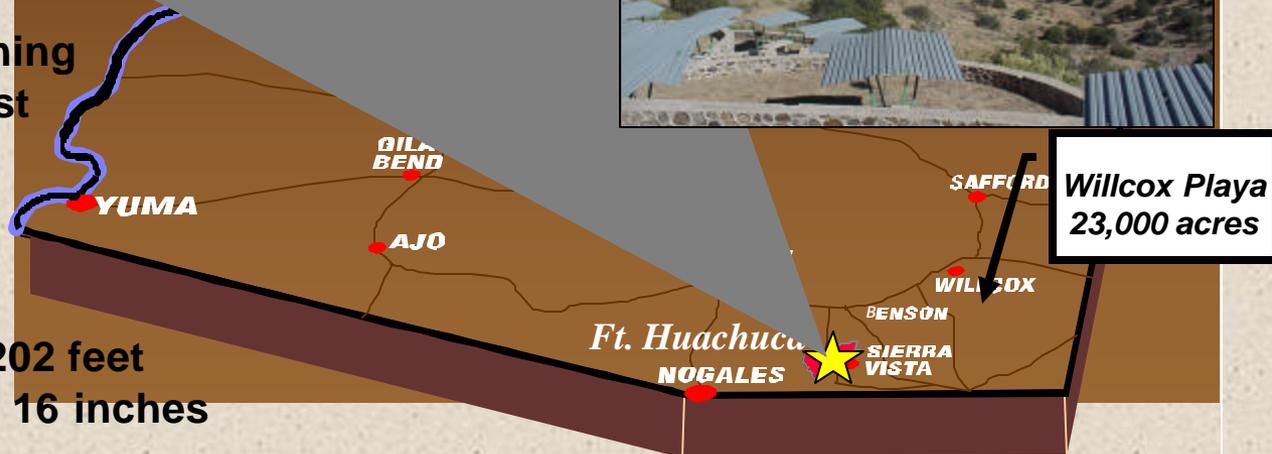
➤ Real Property:

- ◆ 8,013,518 sq. ft.
- ◆ \$561,586,000

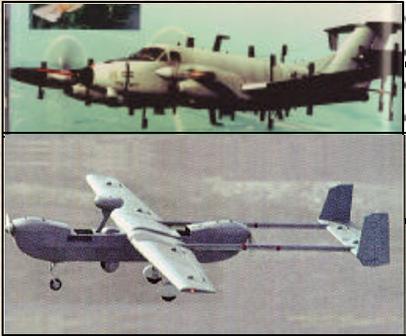
➤ 25 Training areas

➤ Elevation - 4265 feet to 8202 feet

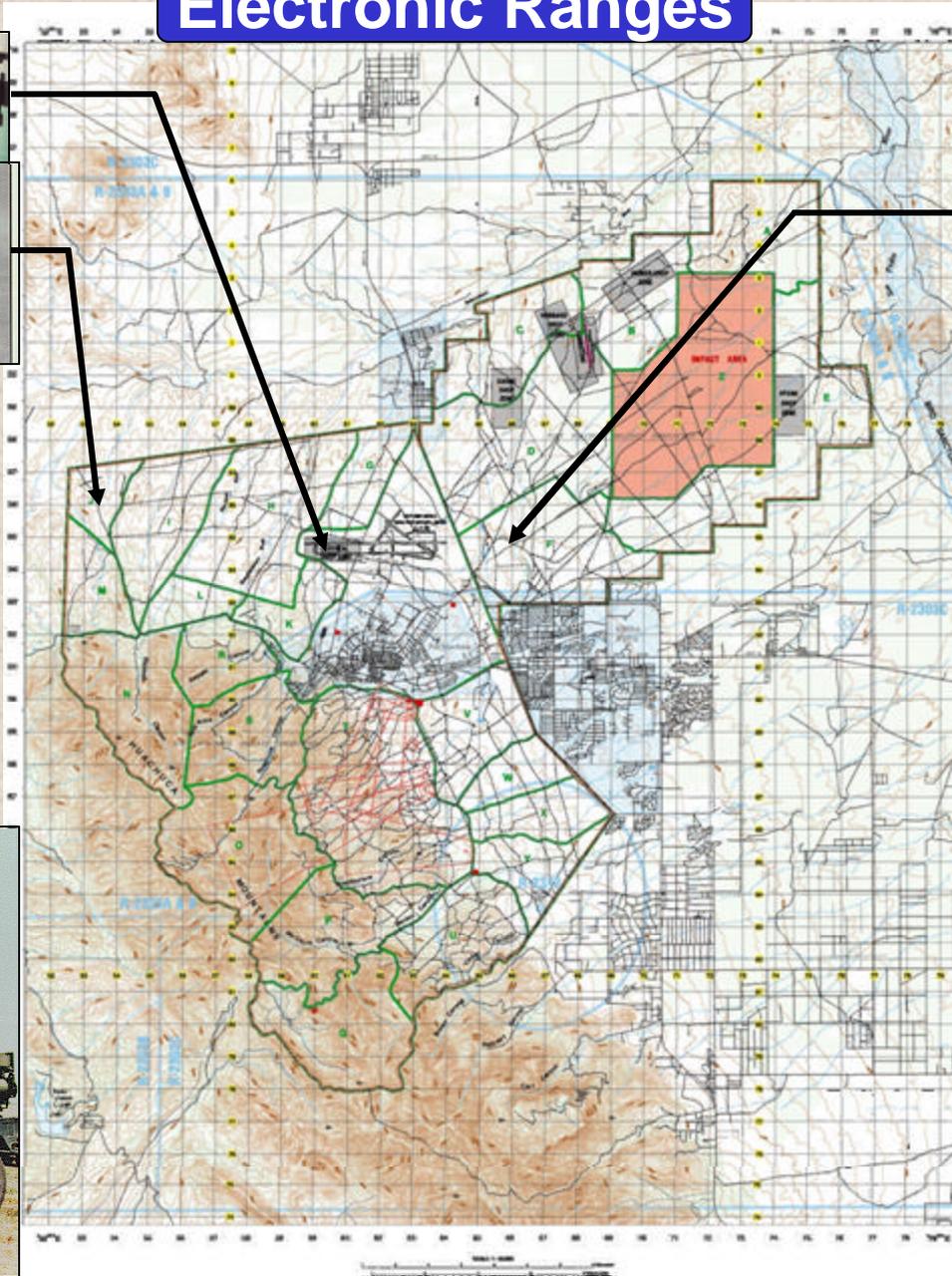
➤ Average Annual Rainfall - 16 inches



Electronic Ranges



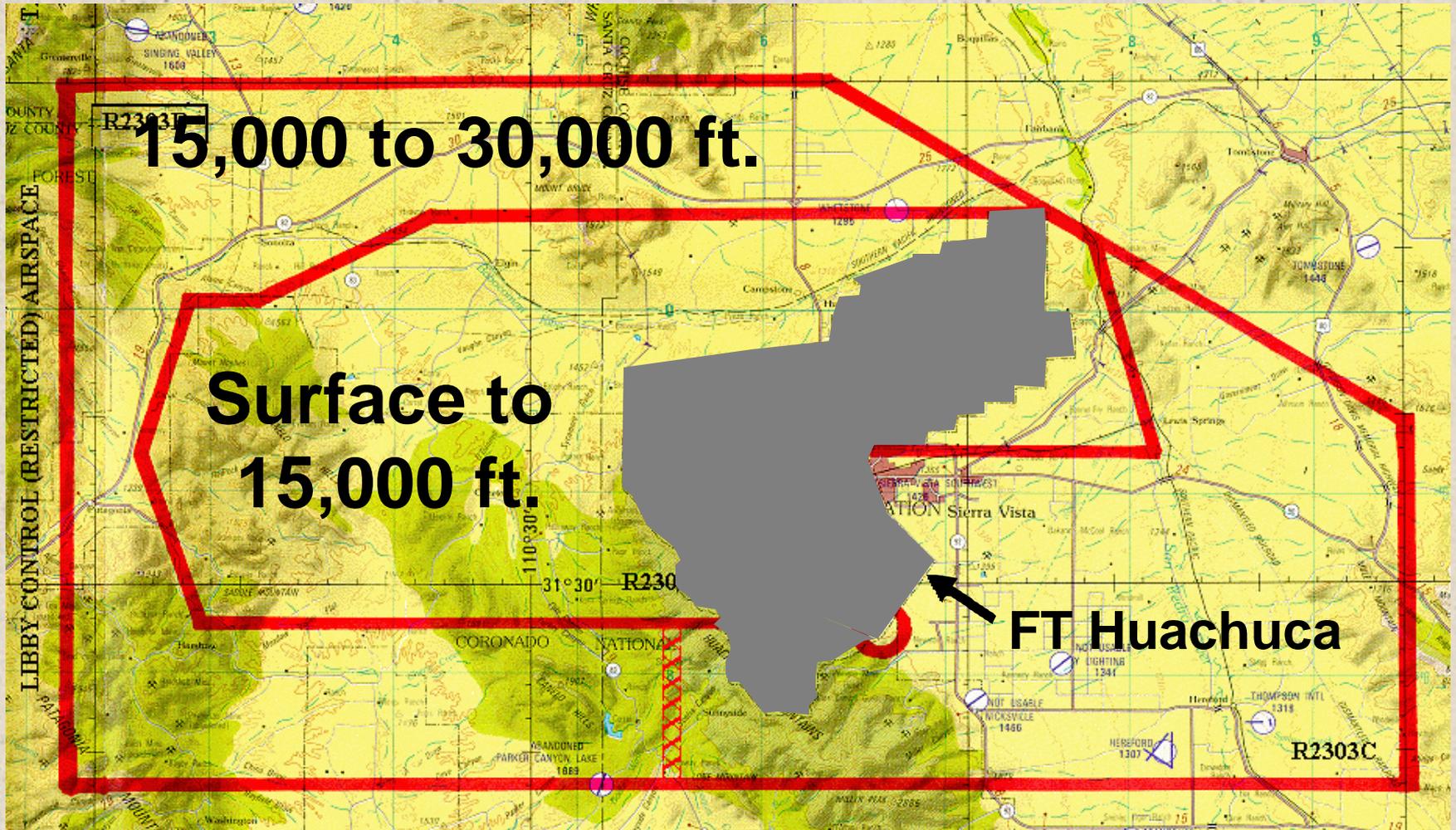
- ◆ Irreproducible long term spectrum access
- ◆ Only U.S. location where aggressive, offensive, electronic warfare/jamming can be conducted
- ◆ Controlled airspace for UAV testing



- ◆ Only test range with a frequency coordination zone protected by federal mandate (not transferable)
- ◆ Expandable to adjacent Federal, State, and Local lands to emulate Division size tests
- ◆ Located in the San Pedro River Valley surrounded by mountains that further reduce electromagnetic interference



RESTRICTED AIRSPACE



National Airspace Redesign



Stationing Strategy



C2



Training
Community



Testing
Community



This is FT Huachuca

synerg

- Army Stationing Strategy 15

ilities."

Power
Support
Platform



Acquisition,
Logistics, and
Technology





Requirements



Systems Development

Developmental Testing



Operational Testing

Joint / Interoperability



C4ISR Systems Lifecycle

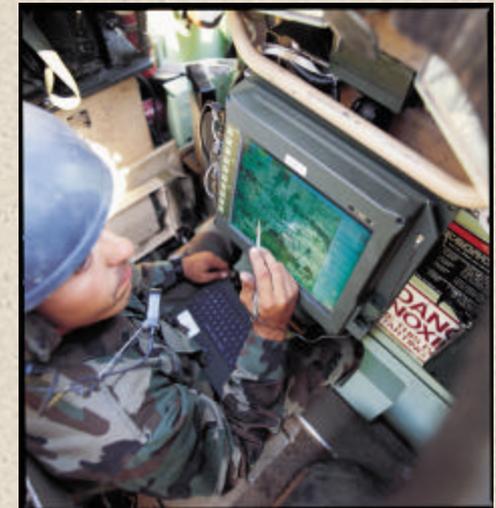
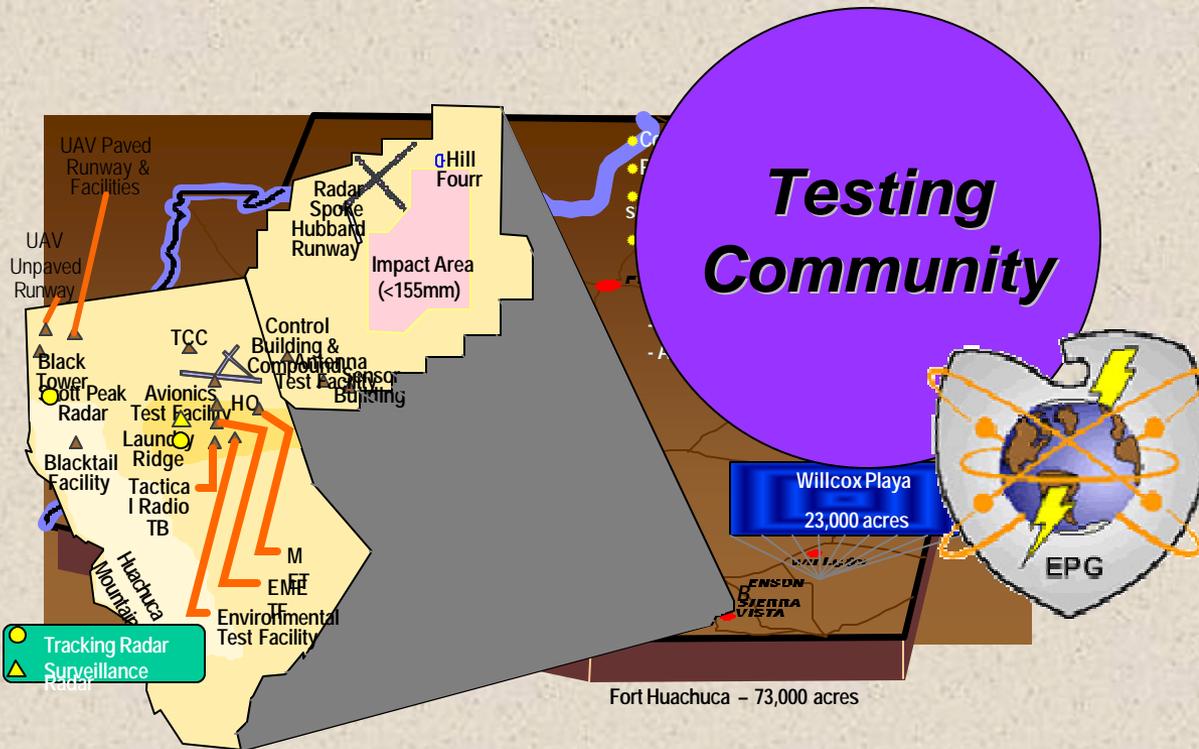


Operations & Maintenance

Training

Procurement / Fielding





ELECTRONIC PROVING GROUND (EPG)



United States Army

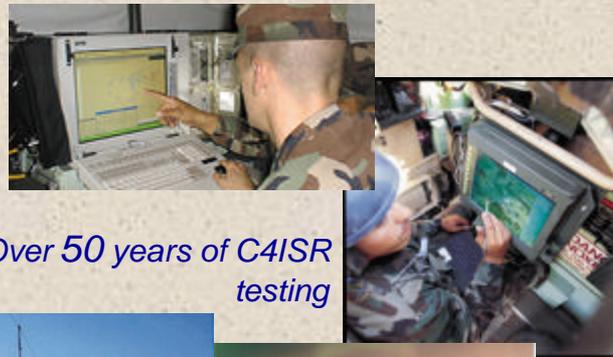
Electronic Proving Ground

The Army's C4I Developmental Tester

Readiness Through Testing

Command Overview

COL Jerome Payne
EPG Commander



Over 50 years of C4ISR testing



Mission Core Competencies

- √ Distributed system of systems
- √ Network-centric systems
- √ Command & control
- √ Communications & computers
- √ GPS/Navigation
- √ System C4 Vulnerability Assessment
- √ E3
- √ IEW
- √ Info assurance
- √ MANPRINT/RAM
- √ Sensors

MISSION: Our mission is to support the acquisition process through rigorous and robust testing of C4ISR systems.

VISION: A customer-focused, value-added organization that leverages emerging C4ISR technologies to meet the needs of the Warfighter.

Updated 26 Jan 04
Approved for Public Release



Requirements



Systems Development

Developmental Testing



Operational Testing

Joint / Interoperability



C4ISR Systems Lifecycle



Training



Operations & Maintenance



Procurement / Fielding

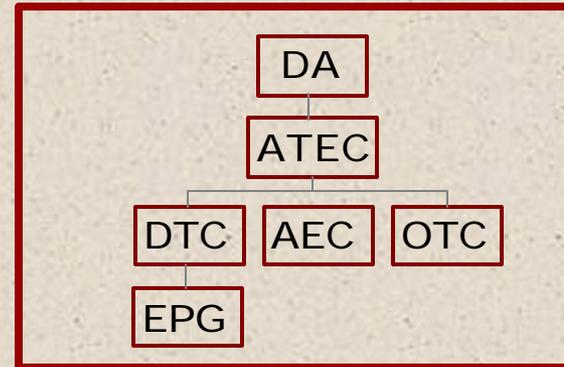


Who We Are

PERSONNEL

Mil	1
Gov	130
<u>Cont</u>	<u>392</u>
TOTAL	523

68% Professional and
Technical job series

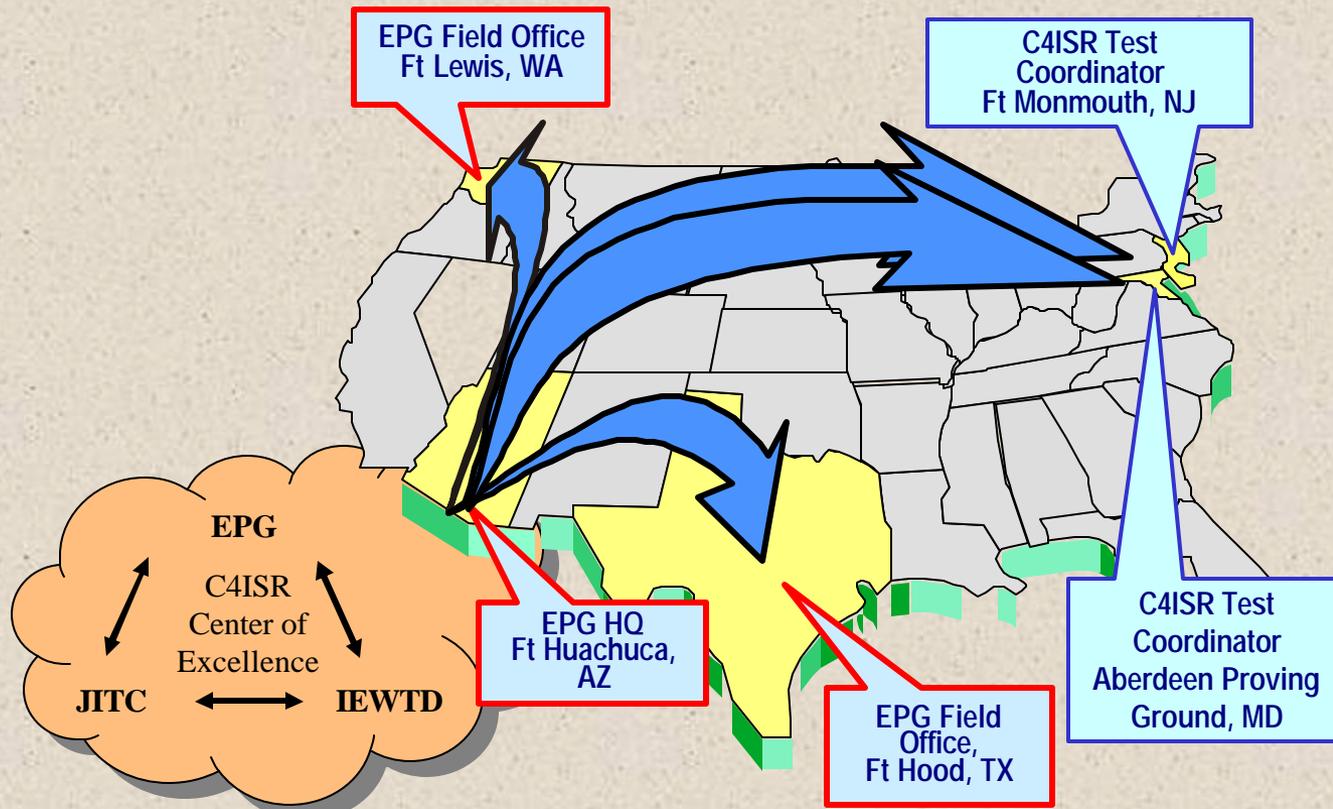


LAND AREA UTILIZATION

73,000 acres

**Total Value of Property~ \$114M
(Excluding Land)**

How we Leverage Partnerships



What We Do

Facility Infrastructure supports test and evaluation from the..component.. to system.. to “system of systems” level !

C4ISR Unique Facilities



Antenna Test Facility

- 3 major systems
- 240 nm range



Tracking & Surveillance Radars



Fabrication Facility

- Airborne, ground-based, waterborne platforms
- Distributed systems of systems
- Network-centric systems
- Command & control systems
- Communications & computer systems
- GPS/Navigation systems
- IEW systems

- 167 wheeled vehicles



Motor Pool



Environmental Test Facility



EMI/TEMPEST Test Facility

- Jamming Capability



GPS Test Bed



Tactical Radio Test Bed

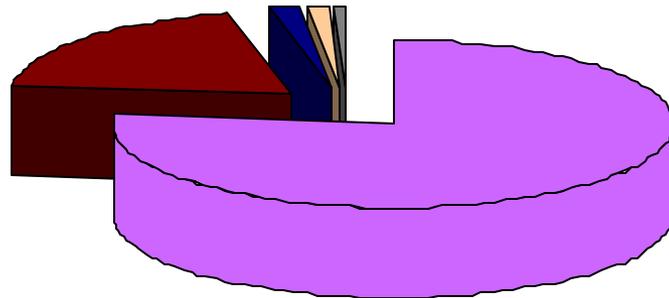


Information Assurance Test Facility



FY04 Revenue Projection

Test-Related Activity (\$55.3M)



\$42.5M	Support Contract (NEWTEC)
\$10.9M	Government Salaries
\$0.857M	Supplies/Materials
\$0.823M	Travel
\$0.259M	Other Services
<u> </u>	
\$55.3M	

Homeland Defense/Technology Transfer (\$41M)

- Research and development (counternarcotics & homeland defense)
- Testing new technologies
- Technology transfer (dual effort to support counterdrug mission and homeland defense)
- Training

Supporting Real World Missions

Transformation

- Stryker
- Joint Tactical Radio System
- Land Warrior
- Unmanned Aerial Vehicle
- Warfighter Information Network –Terrestrial
- Future Combat Systems

Supporting the
Future Force

Army at War

- Deployed Systems Engineer with III Corps to work joint & coalition interoperability
- Deployed personnel to 4th Infantry Division to maintain tactical operations center comms
- Provided 11th Signal Brigade communications software planning tool

Operation Iraqi
Freedom

Homeland Defense

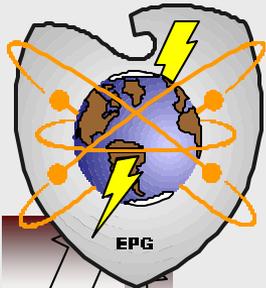
- Research and development
- Testing new technologies
- Technology transfer
- Training

Supporting Our
Nation



EPG

KEY MISSION AREA PARTNERS



EPG

Shared resources, Prophet, Aerial
Common Sensor, DAGR

BluFor Tracking, S...

JTRS, W...

Garrison Support, TSM's / ACS

Tools



IEWTD



NETCOM



JITC



USAIC



SOUTH



ISEC



ARMY

BFT, ABCS,
Stryker, FCS



AIR FORCE

Airborne GPS
Compass Call

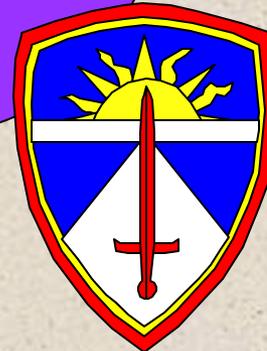


NAVY

AAAV
Mobile Jammer



*Testing
Community*



INTELLIGENCE ELECTRONIC WARFARE TESTING DIRECTORATE



United States Army



Operational Test Command

Intelligence

Electronic Warfare Test Directorate

Command Brief

COL Eugene J. Komo Jr.
Director, Commander



*Intelligence Electronic Warfare
Test Directorate*



Requirements



Systems Development

Developmental Testing



Operational Testing

Joint / Interoperability



C4ISR Systems Lifecycle



Training



Operations & Maintenance

Procurement / Fielding





U.S. Army Intelligence Electronic Warfare Test Directorate



Mission

To plan, conduct and report on operational test and assessments of intelligence, electronic warfare, surveillance, and reconnaissance (ISR) systems, to include Electromagnetic Environmental Effects (E3) and Information Assurance (IA), in support of Army and Joint-Service material acquisition process

**Mandated by Title 10, U.S. Congress*

OPERATIONAL TEST

Soldiers



Wartime
Tempo



Operations
MTOE Units

Simulation/
Stimulation

Advanced
Technology

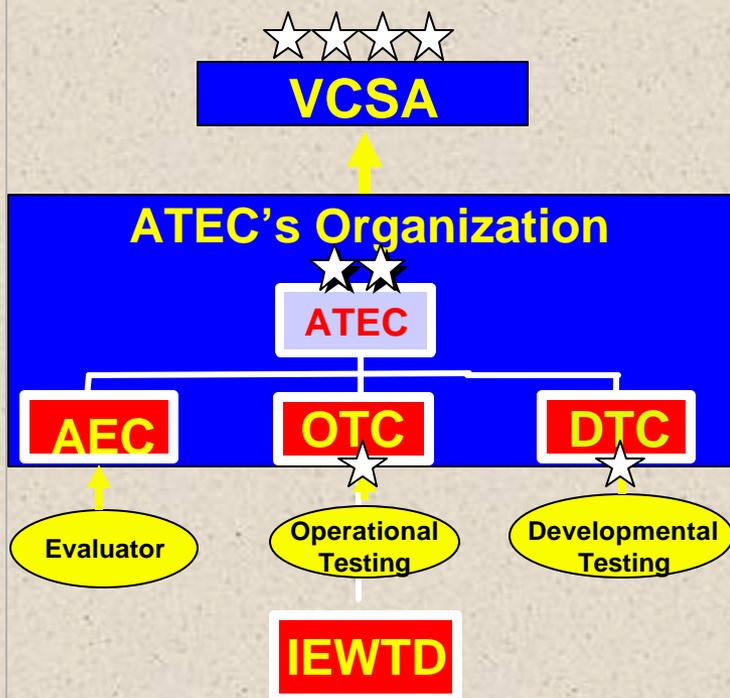


Modeling



Intelligence Electronic Warfare Test Directorate (IEWTD)

Organization



Total IEWTD Personnel: 99
Military, Civilian, Contractor

Electromagnetic Testing Tools



Key Assets (\$91.9 MIL):

- Intelligence Modeling and Simulation for Evaluation (IMASE)
- Information Assurance Testing Tool (IATT)
- Electronic Warfare Monitoring Facility (EWMF) and Signal Monitoring Vans
- Automated IEW Test System (AI/EWTS) and Vulnerability Mobile Transmitter Vans



Customer Base

- Army Test and Evaluation Command (ATEC)
- US Army and Joint Product/Program Managers
- System Contractors
- Other Services/Agencies (JFCOM, SOCOM, USMC, USAF, USN, NSA, DIA, DARPA, NRO, DISA)
- Other Service Operational Test Agencies (MCOTEA, AFOTEC, COMOPTTEVFOR, JITC)
- Other Army Agencies (INSCOM, USARSOC, FORSCOM, HQDA)



The Intelligence Electronic Warfare Test Directorate... "Truth in Testing"



FY 03 Customer Tests



Platoon Wolf-NSA

USAF Commo Tests

JTWS GSK - SOCOM



Pine Ridge-NSA

IEWTD

CESAS - MCOTEA



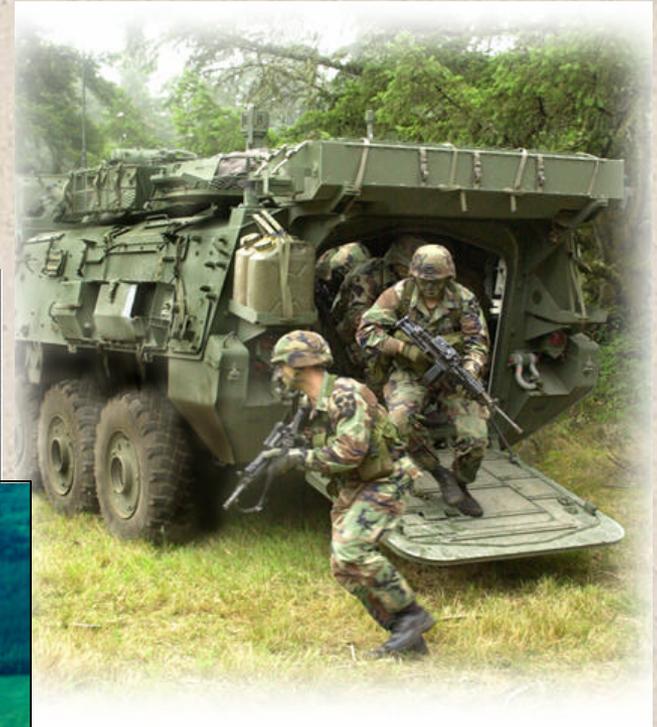
MEWSS - USMC

TFFT - ECSTD SPT

IATF - COCOM



IEWTD's Contribution to the Warfighter



MISSION: The **Army G-3/G-8** tasked **IEWTD** to lead a team of Subject Matter Experts **to execute operational assessments** of **22 critical Force Protection Equipment** and **Intelligence, Surveillance, and Reconnaissance Systems** currently operating in the Iraq and Afghanistan Areas of Responsibility (AORs) in direct support of Operation Iraqi Freedom and Operation Enduring Freedom.

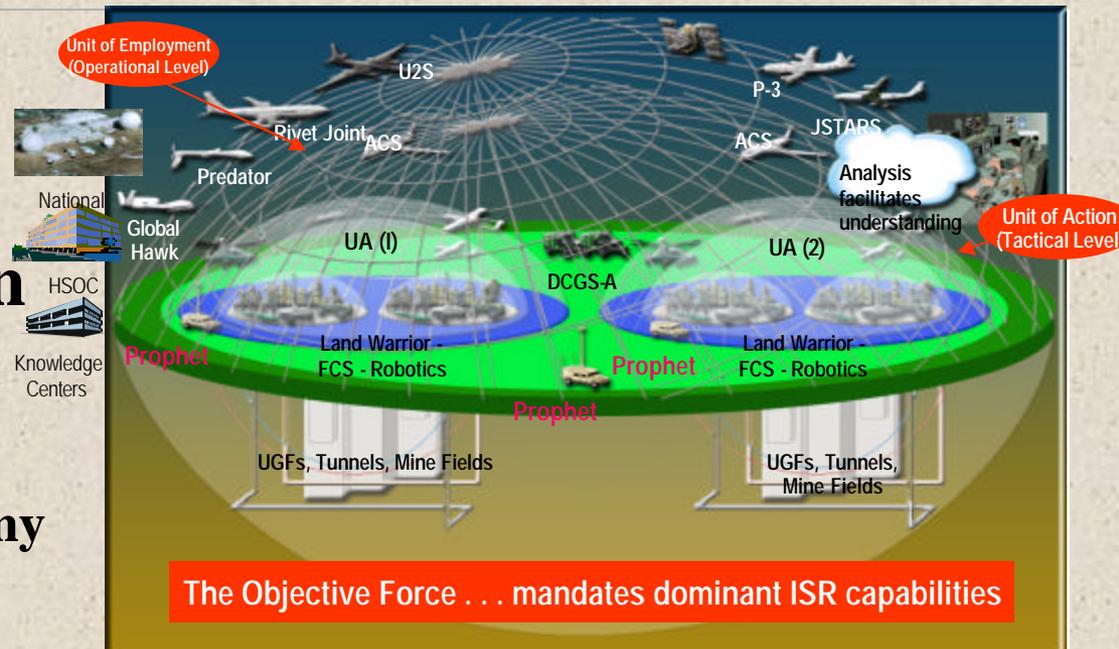
Integrated ISR Force Development Test & Experimentation (FDTE)

- **Joint Venture** with the US Army Intelligence Center

- Examine the feasibility and effectiveness of emerging concepts for military intelligence and ISR support to the **Future Force** in a **Joint/Interagency/Multi-national (JIM), Net-centric environment, Interoperable with the Total Force**

- Provide data that will be used to develop and refine doctrine, organization, training, materiel, leadership, personnel and facilities (DOTMLPF) to satisfy all Future Force ISR requirements

- Provide a **threat-based multispectral modeling and simulation environment** of sufficient fidelity to adequately address unique ISR transformation force development requirements



FDTE MISSION

ACTION

- 1) Support
- 2) Define
- 3) Examine
- 4) Refine

TOPIC

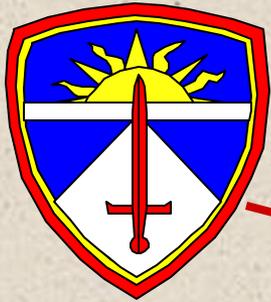
D - doctrine
O - organization
T - training
L - leadership
M - materiel
P - personnel
F - facilities

RESULT

Validate
and
Assess
MI Future Force
capability to
satisfy Warfighter
ISR requirements

Synergy of Combining **IEWTD's Subject Matter Experts in Materiel** with the **US Army Intelligence Center's Subject Matter Experts in Doctrine, Organization, Training, Leadership, Personnel, and Facilities**

IEWTD SYNERGY WITH KEY MISSION AREA PARTNERS



Joint and National Operational Testing



USAIC



EPG



IEWTD

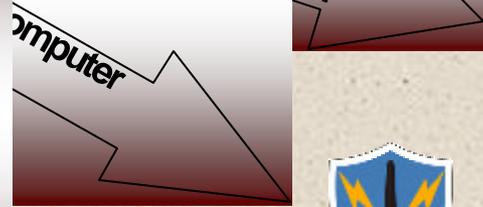
JITC



ARMY NSA



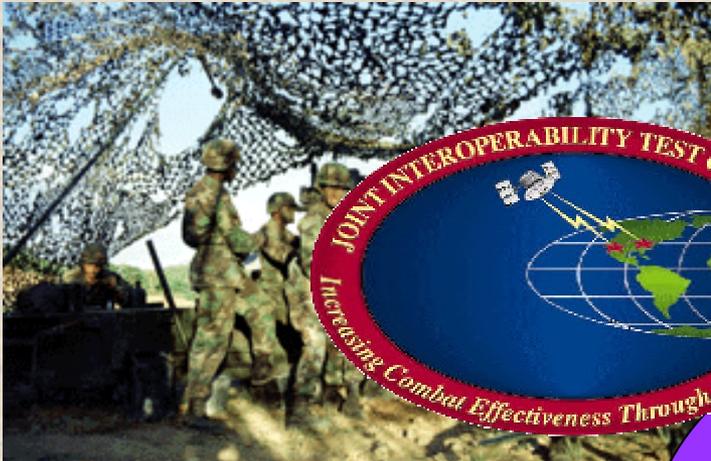
NAVY AIR FORCE



ISEC



NETCOM/CSLA



**Testing
Community**



JOINT INTEROPERABILITY TEST COMMAND



JITC



An integral part of Ft. Huachuca's C4ISR Center of Excellence

**Col Victoria A. Velez
Commander**



Requirements



Systems Development

C4ISR Systems Lifecycle



Developmental Testing



Operational Testing

Joint / Interoperability



Training

Operations & Maintenance



Procurement / Fielding





**Ft. Huachuca's C4ISR CoE and JITC
reduce risk to the Warfighter
by ensuring joint operational effectiveness,
suitability, and interoperability
throughout the life-cycle
of DOD systems.**



System Life-Cycle T&E and Certification Process

Requirements
Certification

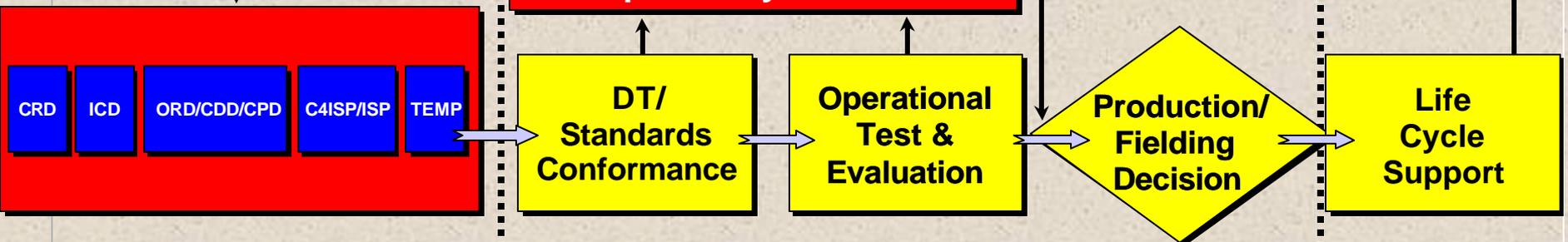
DT / Standards Conformance,
OT&E, and Interoperability
Certification

Operational
Verification

New
Requirement

Recertification/
Renew

Feedback



JITC is the DOD Joint Interoperability Certifier!*

* IAW DODI 4630.8 and CJCSI 6212



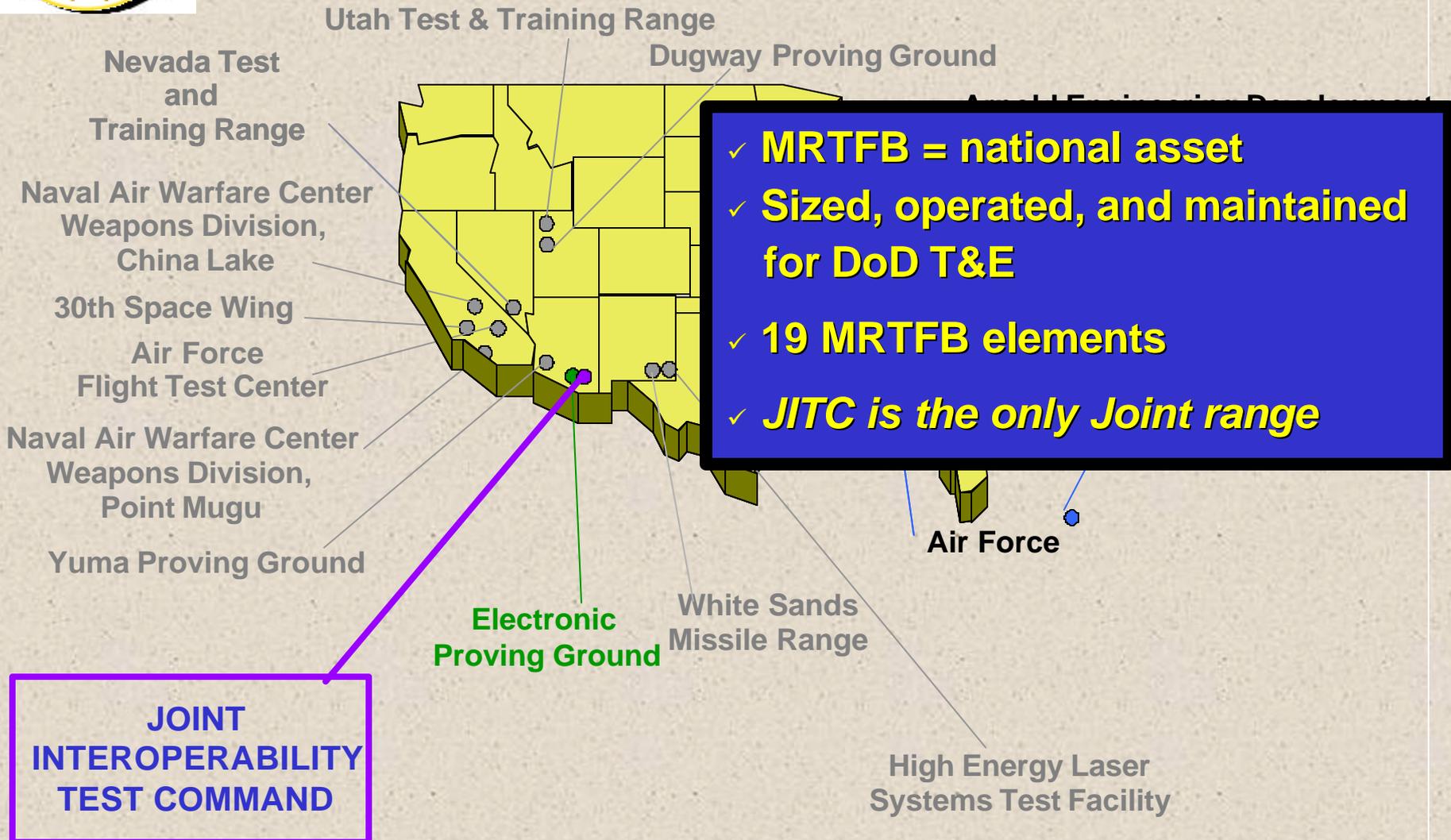
JITC's Specific and Unique Roles

- ❑ DoD's sole joint interoperability certifier
- ❑ Operational Test Agency for many DoD elements
- ❑ Major Range & Test Facility Base (MRTFB)
- ❑ Direct interoperability support to the warfighter
- ❑ Test node for Joint National Training Capability
- ❑ Executive Agent for testing (NIMA, EKMS, and CDL)
- ❑ Charter Member of Ft. Huachuca C4ISR CoE





Western US Major Range and Test Facility Base Locations





JITC's Areas of Expertise

- Asynchronous Transfer Mode (ATM)
- Combined / Coalition Interoperability
- **Command and Control (C2)**
- Defense Collaboration Tool Suite (DCTS)
- **Defense Information System Network (DISN) and Global Information Grid (GIG)**
- Defense Message System (DMS)
- Defense Red Switch Network (DRSN)
- Department of Defense Intelligence Information System (DODIIS)
- DFAS Corp Info Infrastructure (DCII)
- Electronic Business /
Electronic Commerce (EB / EC)
- **Global Command and Control System (GCCS)**
- Global Combat Support System (GCSS)
- High Frequency Test Facility (HFTF)
- Information Assurance (IA)
- Joint National Training Capability (JNTC)
- Joint Tactical Radio System (JTRS)
- Joint Theater Air & Missile Defense (JTAMD)
- Key Management Infrastructure (PKI, PKE, GDS and EKMS)
- **Missile Defense (MD)**
- National Imagery Transmission Format Standard (NITFS)
- **Optical Switching**
- Satellite Communications
- Tactical Communications
- Tactical Digital Information Link (TADIL)
- Telemedicine
- **Unmanned Aerial Vehicle (UAV)**
- US Message Text Format (USMTF)

JITC's Contingency and Exercise Support





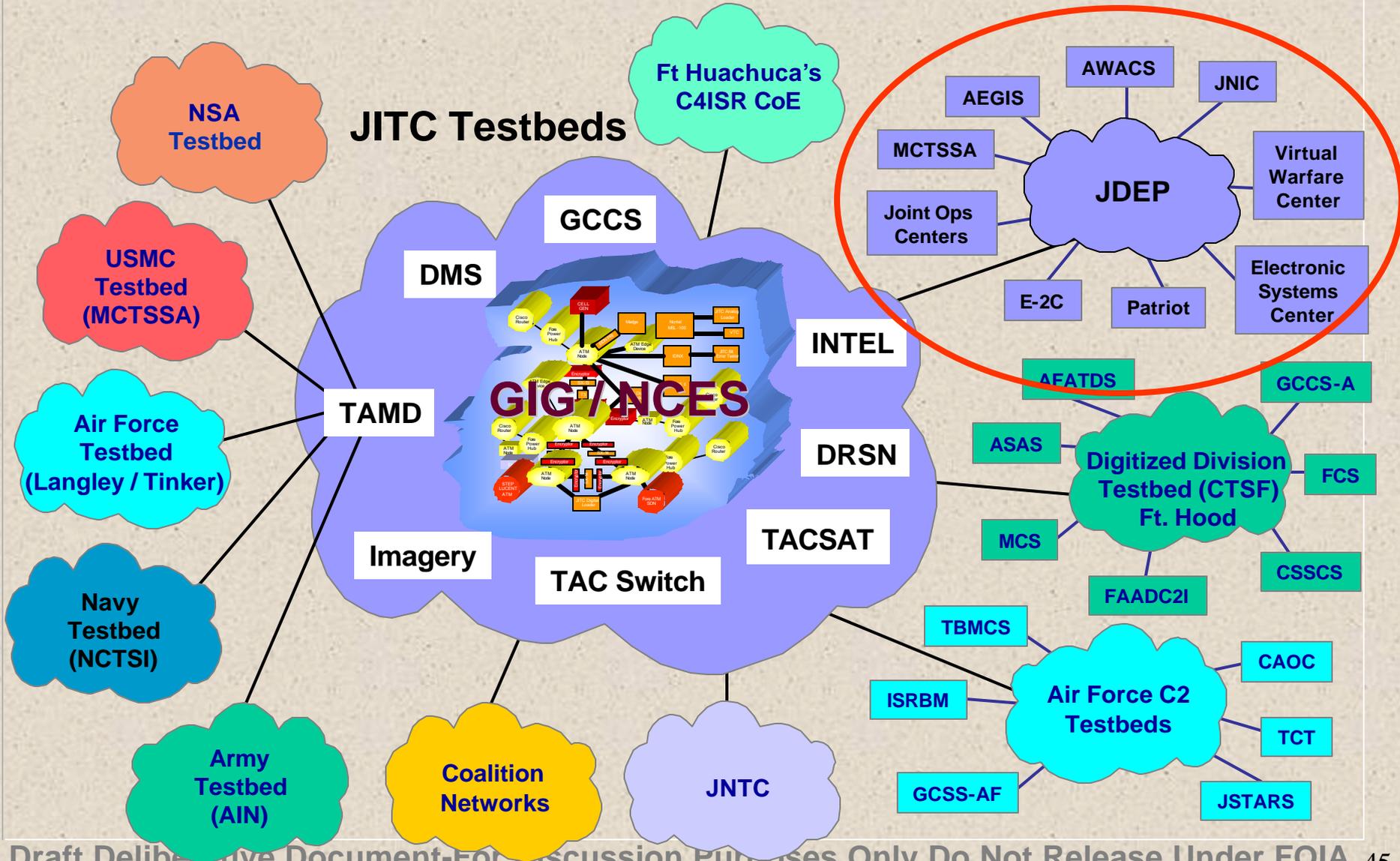
National Imagery Transmission Format Standard (NITFS)

- ❑ **Problem:**
 - NITFS not implemented uniformly
 - Different viewers will view the same file differently
- ❑ **Solution**
 - Developed and implemented imagery standards validation and conformance test program
- ❑ **Successes**
 - Imagery systems interoperable
 - International standards
- ❑ **Results impact Ft Huachuca Intelligence Center training, Joint OTA test strategy, and JNTC**



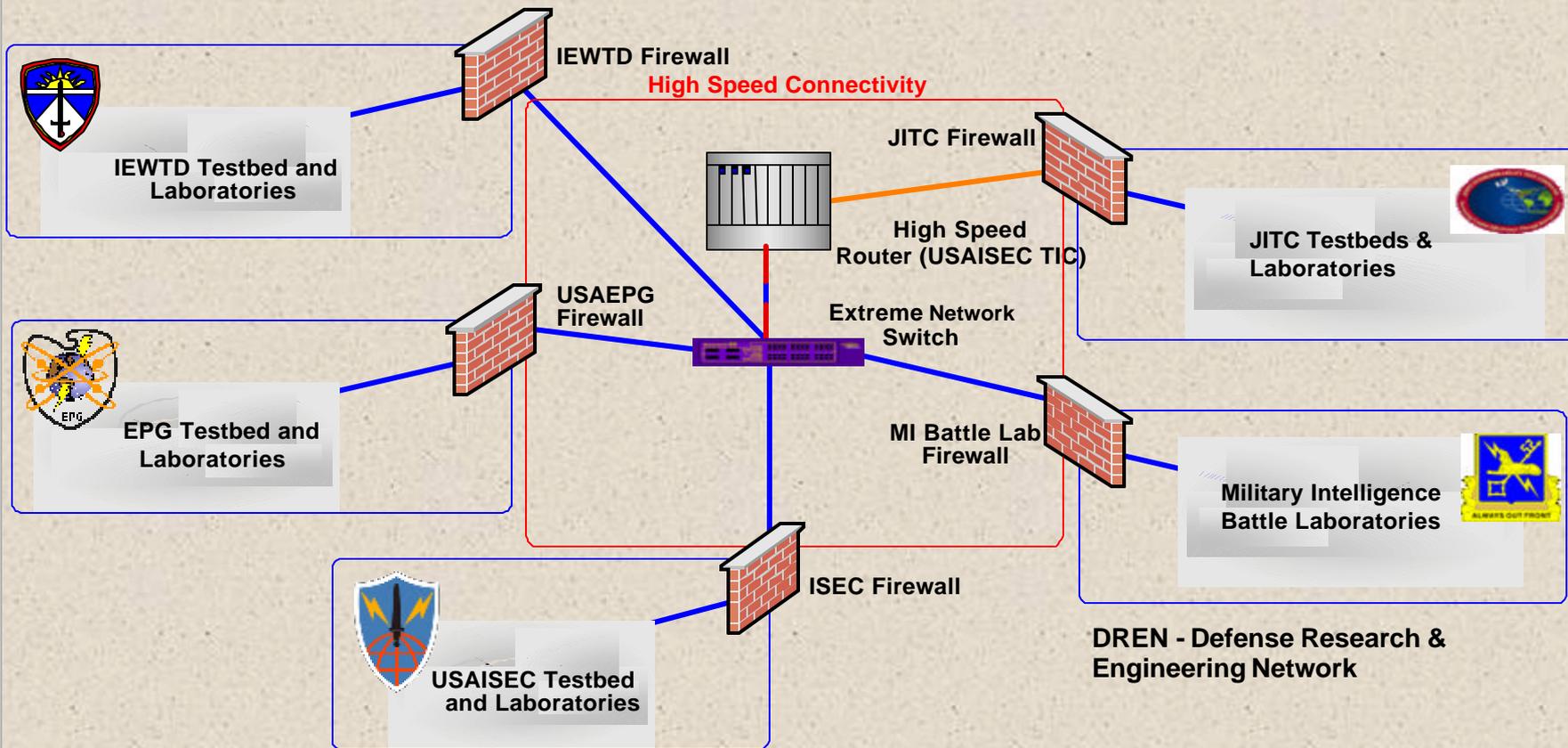
C4ISR Distributed Testing

Replicating the Operational Environment



Ft. Huachuca's C4ISR Center of Excellence

DREN Connectivity



LEGEND

-  ATM OC-3c link
-  CAT-5 Fast Ethernet Link
-  MI Battle Lab Encrypted Data (Fast Ethernet)

Ongoing Ft. Huachuca C4ISR CoE DREN activities: JNTC, HPCMP, Advanced IP Testbed (Moonv6), DICE 04 test backbone, GIG BE End-to-End testing, and GIG BE optical testbed.

Ft. Huachuca's C4ISR CoE In Action

JITC



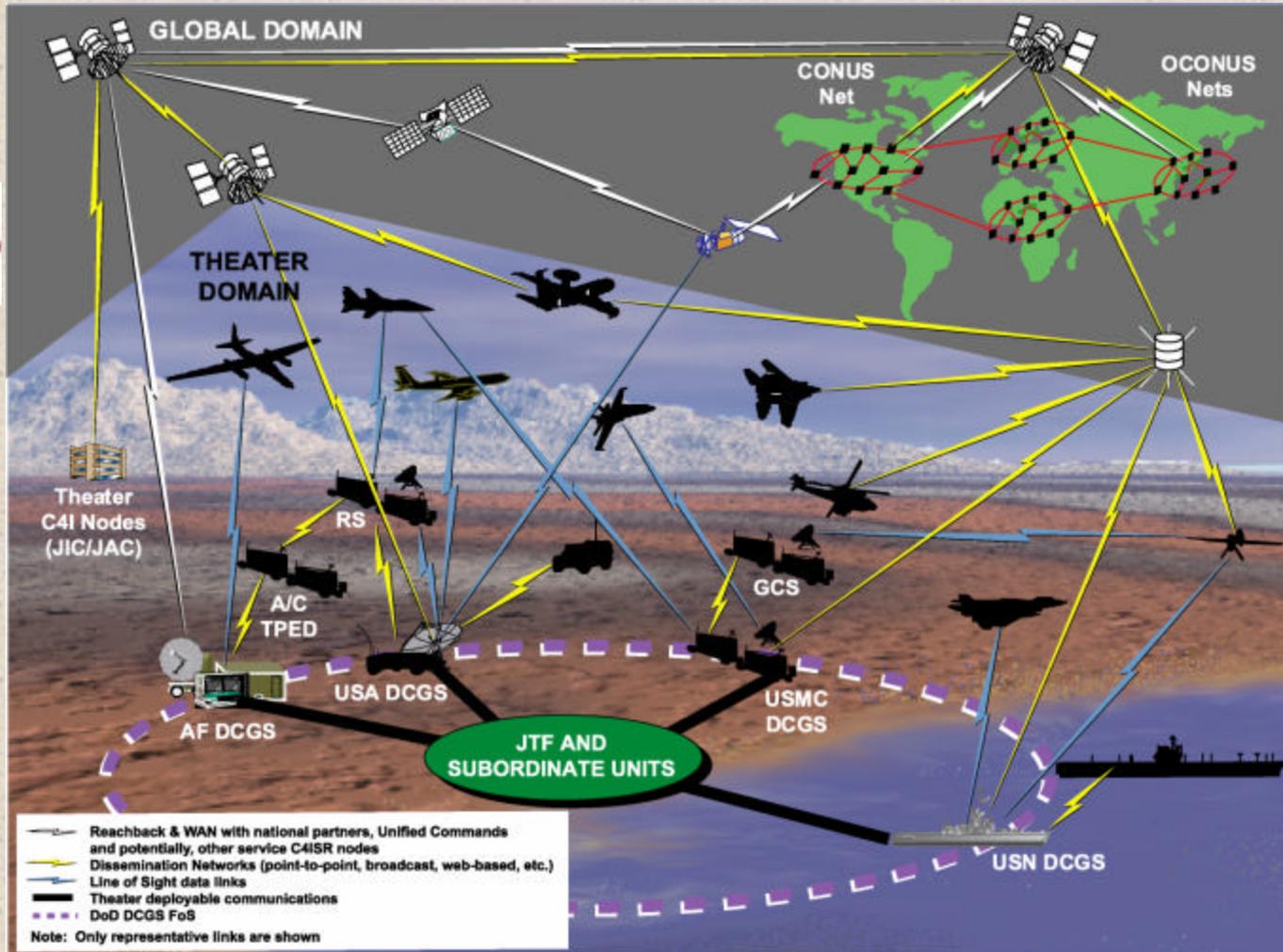
EPG



CSLA



USAIC



Silver Fox UAV Demo to SECNAV -- 12 Dec 03

DOD Interoperability Communications Exercise (DICE)

- ❑ Replicates deployed joint network using operational units and DoD test beds in a “non-threatening” environment
- ❑ Mitigates operational risk through interoperability testing
- ❑ Controlled/managed from Ft. Huachuca due to unique EMI and T&E environment
- ❑ Certify interoperability of joint and Service-unique systems
 - Circuit and message switches
 - Data systems
 - Transmission / telecommunications systems

JITC



CSLA



ISEC



EPG



NETCOM



JITC

KEY MISSION AREA PARTNERS



(DICE, GCCS, DMS, UAV, NSS/ITS)

(DISN, GIG-BE, GCCS, DMS)

(ITR)

700+ NSS/ITS

(INTEL, EW, NSSIT, GCCS)

S DT/OT, UAV)

CE)



ISEC



NETCOM



CSLA



EPG



IEWTD



ARMY
NAVY

NSA
AIR FORCE



Interoperability

PROCEDURES

EQUIPMENT

Ft. Huachuca's C4ISR CoE Provides Unparalleled WARFIGHTER Support to the DoD Lifecycle T&E Process

USAIC



NETCOM



JITC



IEWTD



EPG



CSLA



ISEC



TMEC

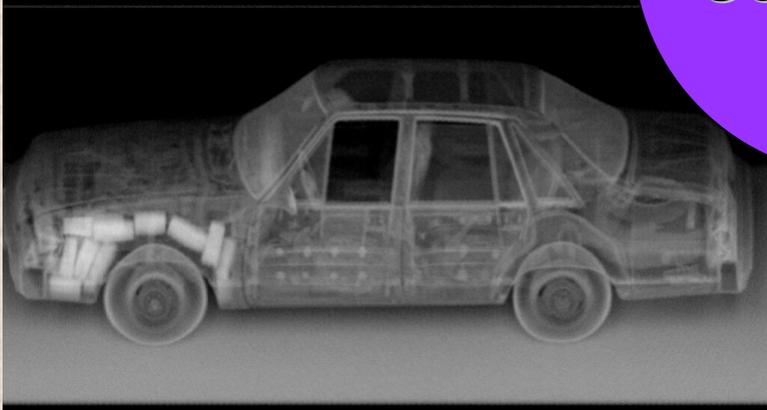


The **BATTLE GROUND**
should not be the **TESTING GROUND**





*Testing
Community*



THUNDER MOUNTAIN EVALUATION CENTER



TMEC was established by the DOD Counterdrug Technology Development Program Office to provide support to the Drug Law Enforcement Community for the evaluation of Non-Intrusive Inspection (NII) Systems. TMEC supports NII efforts by providing operator training, logistics and maintenance support, and system fielding.

Recent developments in the world situation have caused TMEC to branch out into Homeland Defense and Force Protection operations.

TMEC Mission:

To provide facilities and personnel to support the management, testing and evaluation, technical analysis, operator training, logistics and maintenance support, and full life-cycle support for system fielding to the Law Enforcement and Force Protection Communities.



The TMEC Team:

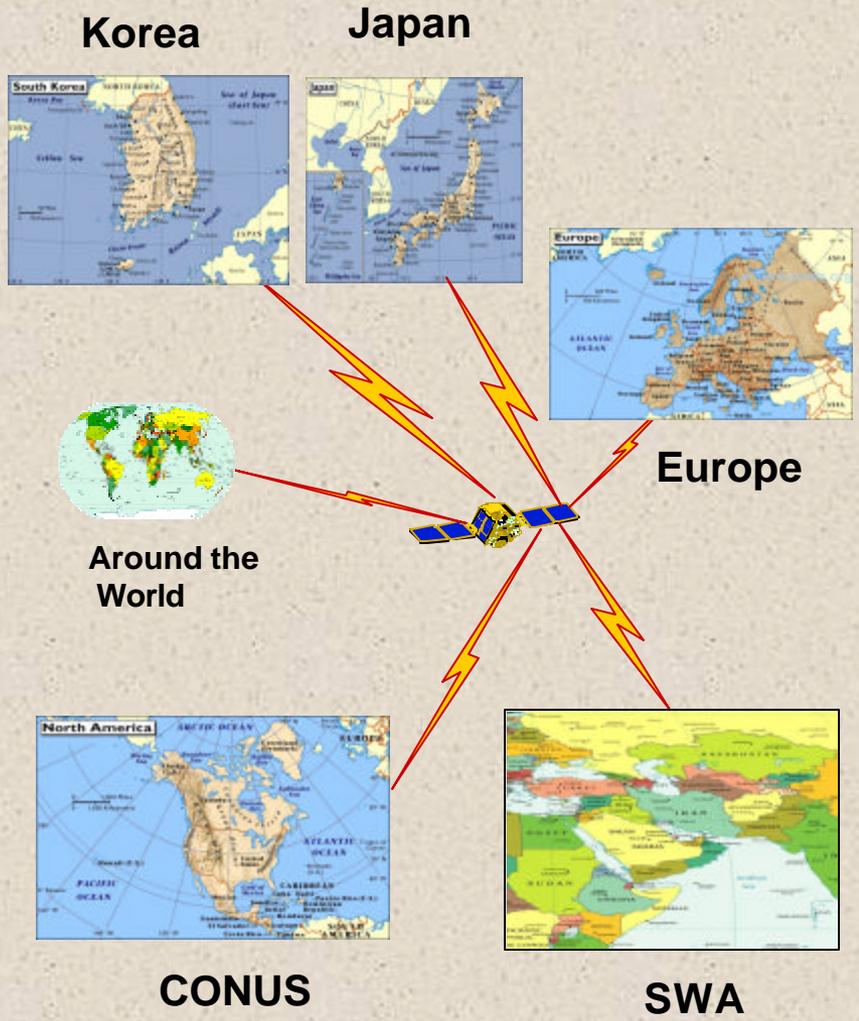


- Dept of Defense & Dept of Homeland Security
- US Customs Service (USCS)
- Counterdrug Technology Development Program Office
- Office of National Drug Control Policy (ONDCP)
- Technical Support Working Group (TSWG)
- National Guard * National Assessment Group
- Drug Enforcement Administration (DEA)
- Federal Protective Service
- Department of Defense * Coast Guard
- EUCOM *JTF-4 / 5 / 6
- Office of Special Technology (OST)
- Department of Energy (DOE)
- Immigration and Naturalization Svc/Border Patrol
- FAA/TSA Canada: Dept of Revenue

APPROACH:

- Perform controlled operational testing at Fort Huachuca
- Support Stream of Commerce testing at multiple USCS Ports of Entry (POEs)
- Train local **National Guard** and **USCS** personnel to operate the equipment
- Make recommendations for system improvements
- Support equipment maintenance

**Acquisition,
Logistics, and
Technology**



INFORMATION SYSTEMS ENGINEERING COMMAND (ISEC)



Pentagon Engineering

**Force Projection
Engineering**

**Information
Assurance
& Security
Engineering**

INFORMATION SYSTEMS ENGINEERING COMMAND (ISEC)



**Infrastructure
Systems
Engineering**



**Transmission
Systems**



Technology Integration



Requirements



Systems Development

C4ISR Systems Lifecycle



Developmental Testing



Operational Testing

Joint / Interoperability



Training



Operations & Maintenance

Procurement / Fielding





ISEC MISSION



Information Assurance & Security Engineering



Pentagon Engineering



Transmission Systems

Serves as the Army's lead system engineer and integrator for information infrastructure / force projection information systems and System of Systems Integration that support MACOM, Army, CINC, and Sustaining Base information requirements and the entire Army Transformation. The Command ensures vertical and horizontal systems integration of sustaining base and strategic systems with seamless interoperability into the theater/tactical environment leveraging the strengths of all of CECOM's capabilities.



Infrastructure Systems Engineering



Technology Integration



Force Projection Engineering

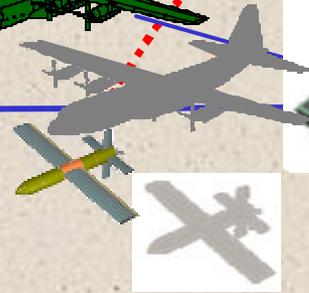


INFORMATION SYSTEMS ENGINEERING COMMAND (ISEC)

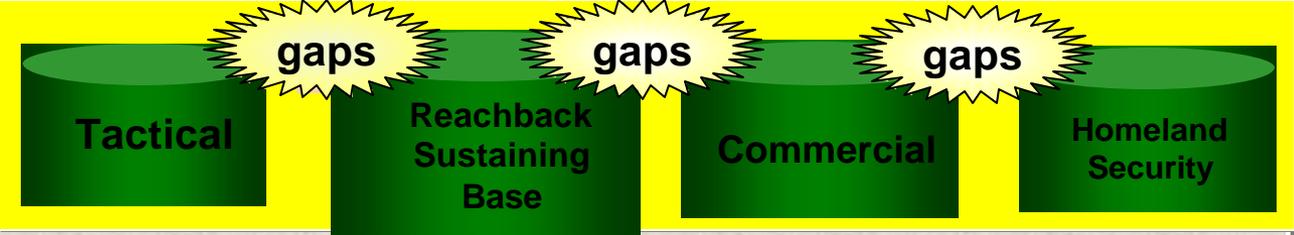
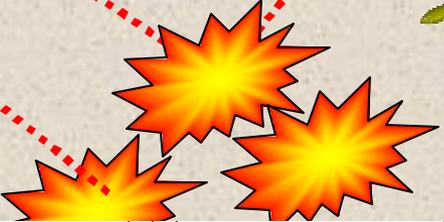
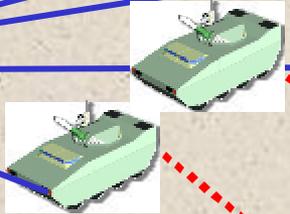


**Combatant
Commander**

CJTF



To engineer quality information system solutions that are technically integrated, and interoperable.





INFORMATION SYSTEMS ENGINEERING COMMAND (ISEC)



CUSTOMERS



PM DCASS



PM DCATS



PM LIS



EUCOM



SOUTHCOM



PM TIS



PM EI



CENTCOM

**COMBATANT
COMMANDS**



PM DLS



PM JCALS



PM IM&T



AMC



ARCENT



MEDCOM

MACOMS



TRADOC



DISA



NAVY



CIO/G6



NETCOM



ACSIM



PENREN

DOD/JOINT



FORSCOM



ON POINT FOR THE NATION
USAREUR



USARSO



INSCOM



PM JTRS



WHCA



MWR



DTRA



JITC



INFORMATION SYSTEMS ENGINEERING COMMAND (ISEC)



Infrastructure Domain

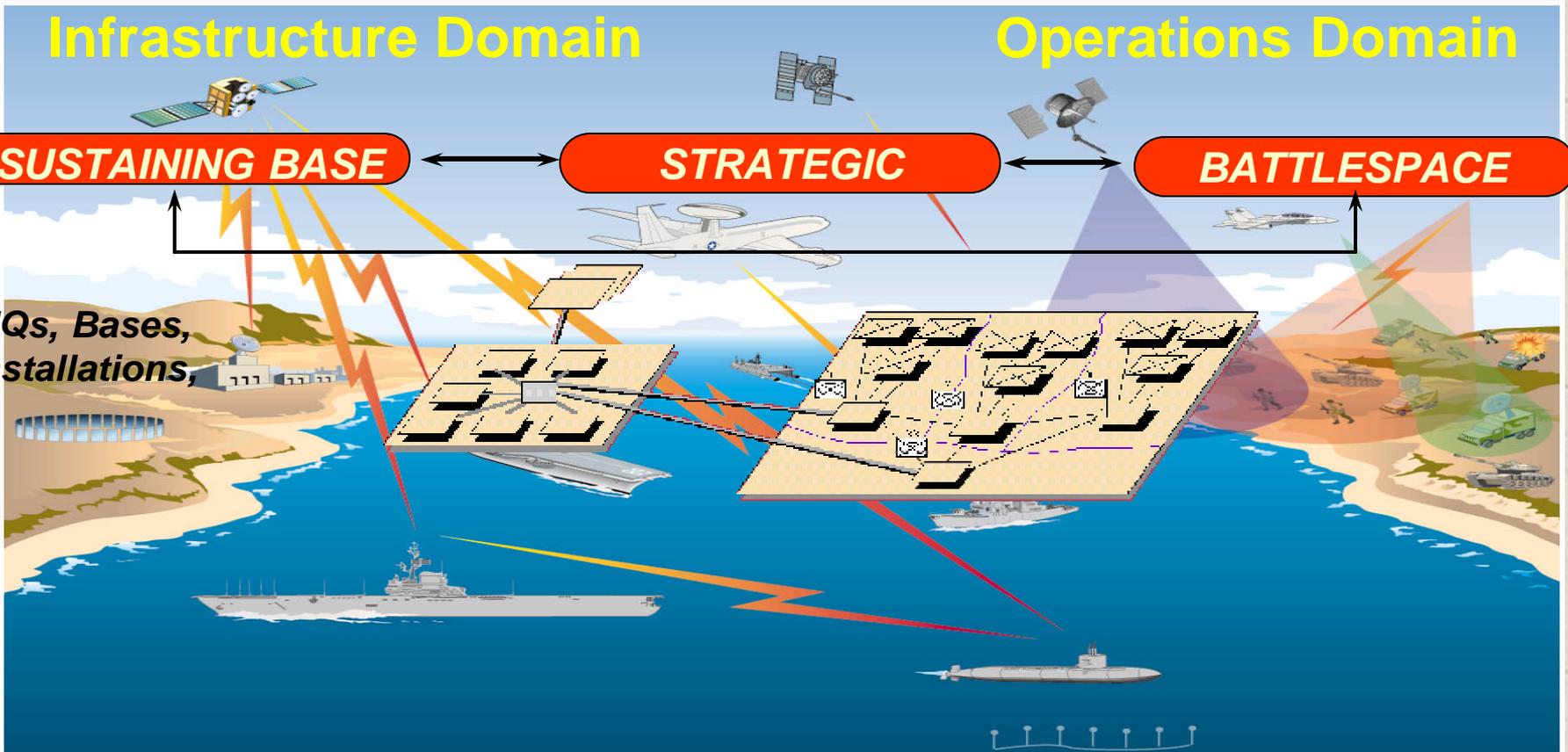
Operations Domain

SUSTAINING BASE

STRATEGIC

BATTLESPACE

HQs, Bases,
Installations,



JOINT C4ISR INTEROPERABILITY

ISEC

KEY MISSION AREA PARTNERS



All Programs

Operations Enduring and Iraqi Freedom/PKI/KICC/DMS/DSN/I3MP

DMS / US

Joint Tactical Radio S

DMS C

TROJAN & I3MP

uation Partnership



NETCOM



CSLA



JITC



EPG



USAIC

ARMY

NS



NAVY AIR FORCE



INFORMATION SYSTEMS ENGINEERING COMMAND (ISEC)



SUMMARY

Korea



Japan



Europe

- 1,113 personnel
- 270 Army installations worldwide
- Joint installations such as the Pentagon
- CONUS/OCONUS Connectivity
- Contingency Operations Engineering Support



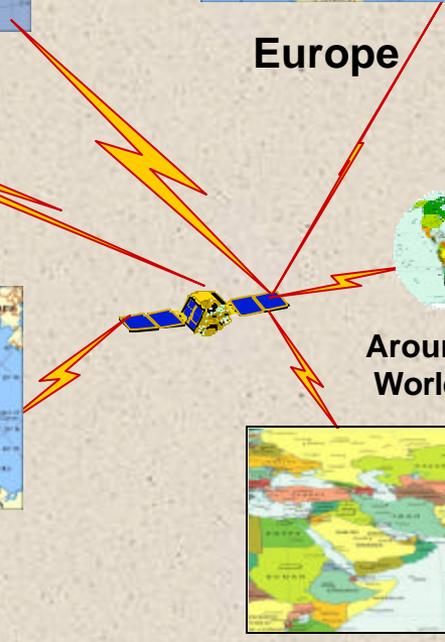
CONUS



Around the World



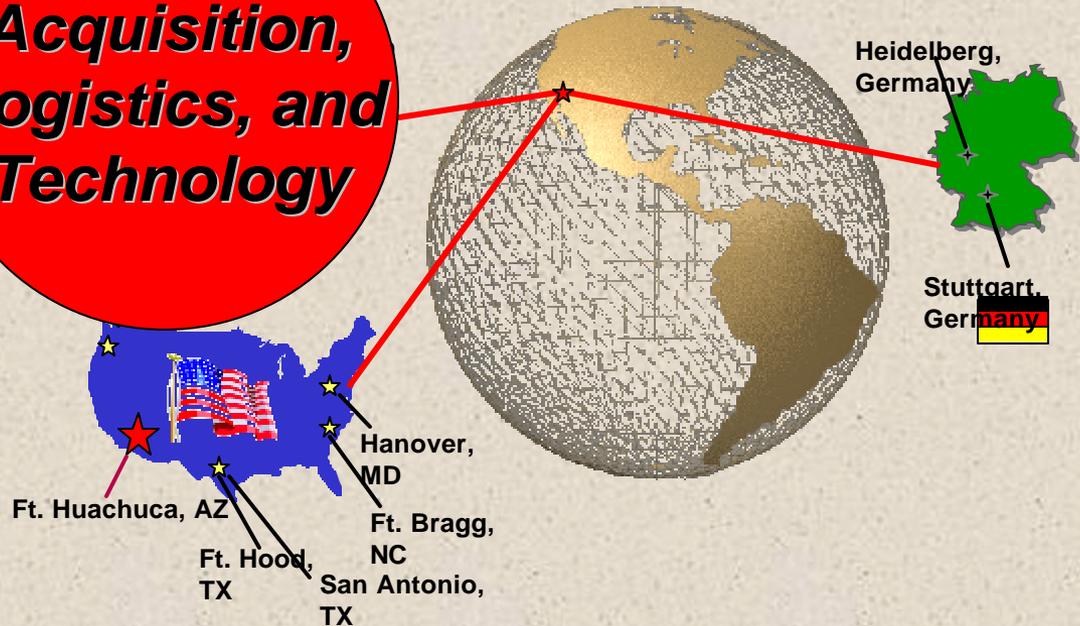
SWA



Every phone call, requisition, email going to an Army installation travels a system that ISEC has designed, upgraded, or installed.



**Acquisition,
Logistics, and
Technology**



COMMUNICATIONS SECURITY LOGISTICS ACTIVITY



CSLA: MISSION BRIEF

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CECOM Communications Security Logistics Activity

Fort Huachuca, AZ

CECOM Bottom Line: THE WARFIGHTER



Requirements



Systems Development

C4ISR Systems Lifecycle



Developmental Testing



Operational Testing

Joint / Interoperability



Operations & Maintenance

Training

Procurement / Fielding





CSLA Mission

Provide the Warfighter with procurement, training, logistics, and sustainment management support for Information Assurance/Information Security and related emerging technologies.

CECOM Bottom Line: THE WARFIGHTER



CSLA Includes:

- Information Systems Security Program (ISSP)
- COMSEC Logistics Readiness
- COMSEC National Maintenance Point
- COMSEC National Inventory Control Point
- Biometrics
- Electronic Key Management
- Spare Parts Replenishment
- COMSEC Fielding & New Equipment Training (NET)
- COMSEC Depot Work loading
- Strategic On-Site COMSEC Support
- Weapon System Management
- Worldwide Audit Inspection and Incidents
- Functional Proponent Information Assurance
- Cryptographic Modernization
- Kuwait/Iraq C4 Commercialization Project (KICC)



OUR FOCUS

.... Resulting in combat readiness for Warfighters -- because lives depend on us

CECOM Bottom Line: THE WARFIGHTER