

TEAM C4ISR

HEADQUARTERED AT
FORT MONMOUTH, NJ

From Concept
to Combat



103-06A -A8A - Base Input
Army - Fort Monmouth (2nd Visit) - NJ
BRAC COMMISSION - FY 2005
COFF: _____ DISPOSITION: Permane



- Team Overview
- C4ISR Mission
- Support to Current Operations
- Modularity
- Transformation
- Facilities
- Demonstration/Tours



Team Overview

From Concept
to Combat





Mission:

As an Integrated Entity, Team C4ISR Develops, Acquires, Fields and Sustains Tactical, Strategic, and Sustaining Base Command and Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Systems for the Joint Warfighter





FORT MONMOUTH

C4ISR Life Cycle Management Center of Excellence

Program Management & System Acquisition

Research Development & Engineering

Readiness & Sustainment

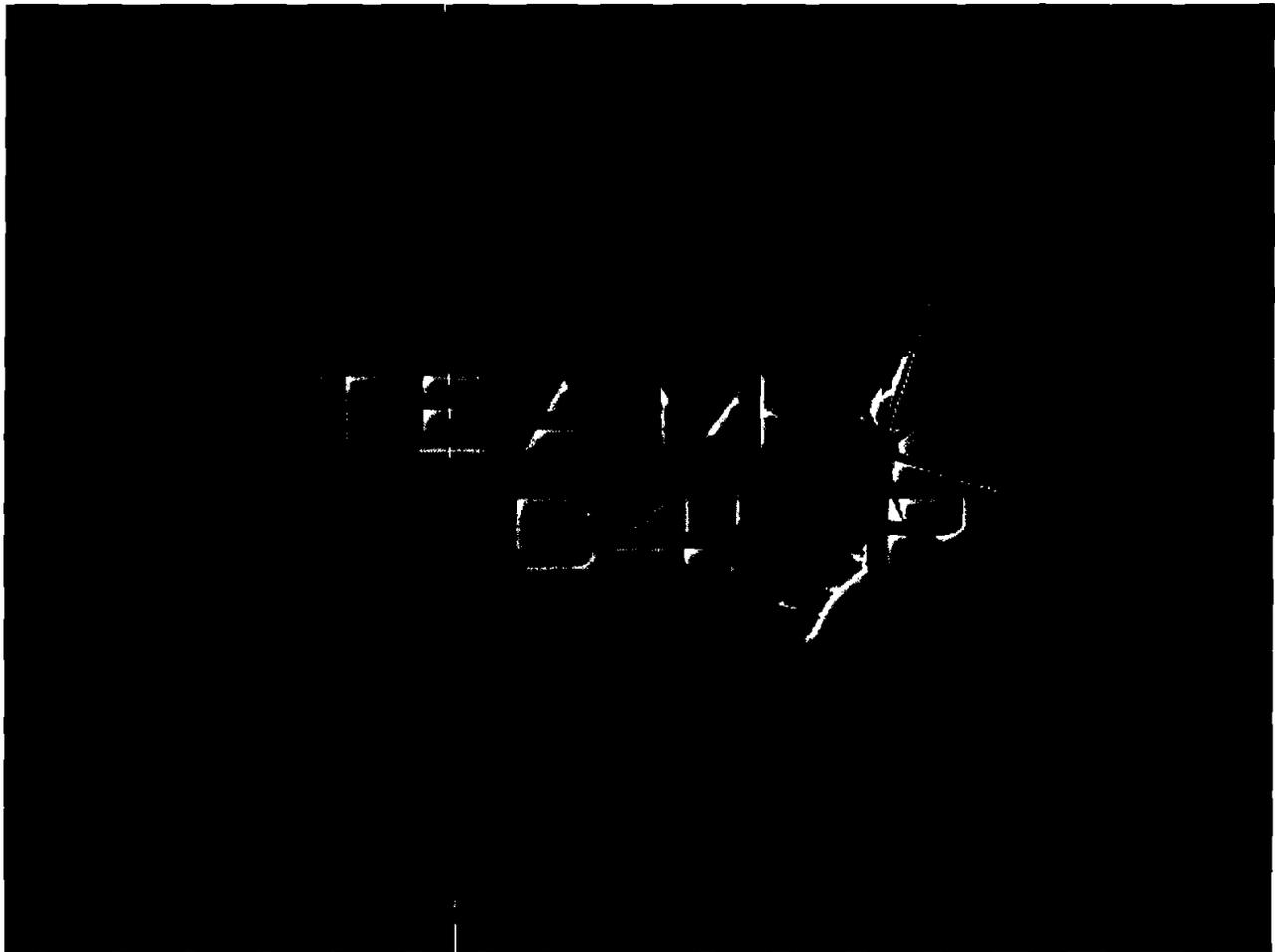
Academia

Mission Support

Industry

A Multi-disciplined Team Linked to Accomplish the Lifecycle C4ISR Mission for the Joint Warfighter

Team C4ISR Overview





What We Execute

Research Development and Engineering

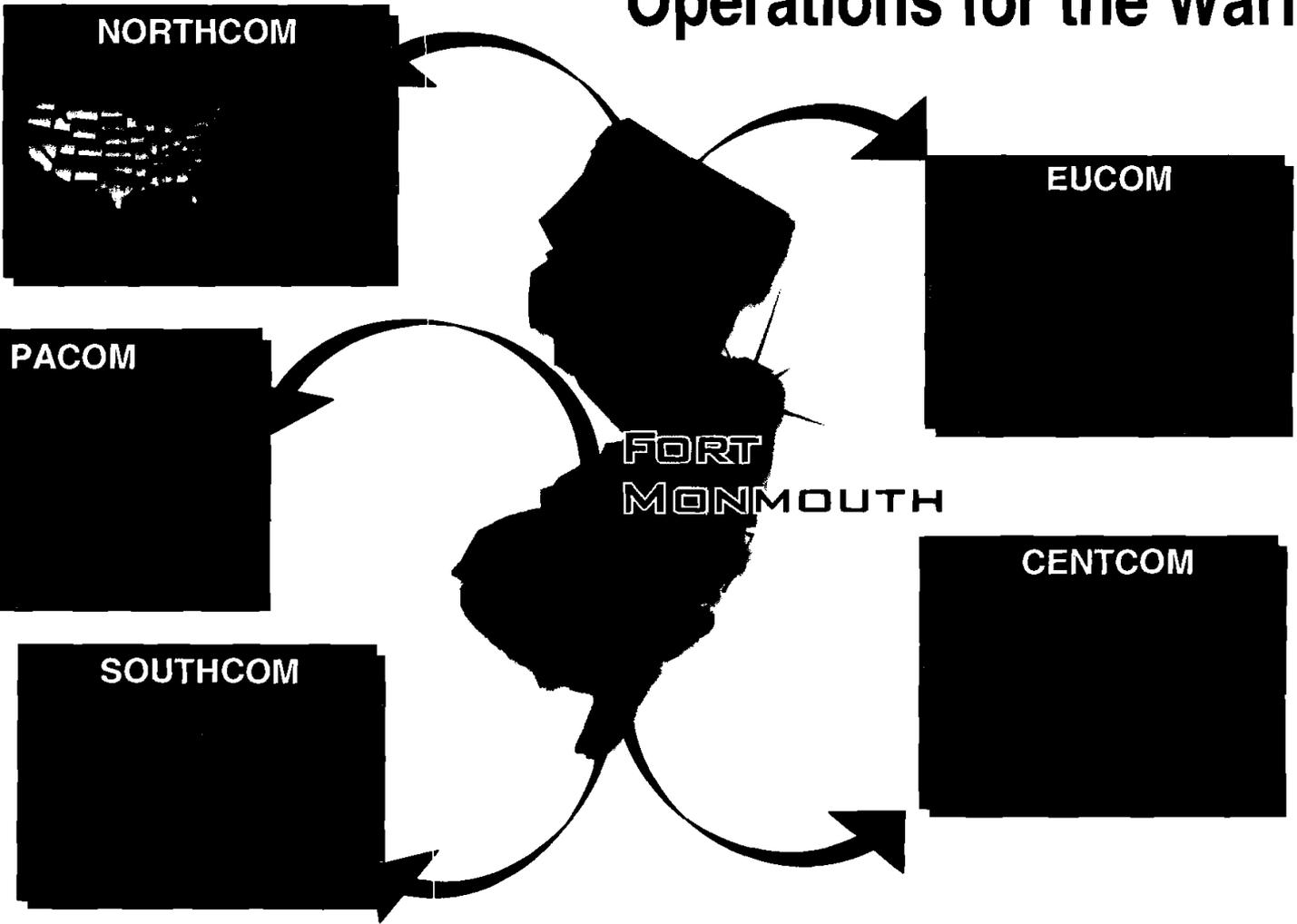
- Lead 3 of 8 Advanced Technology Demonstration Programs
- Manage and Execute 46 of 181 Army Science and Technology Programs
- 2nd Largest Army S&T Organization

Readiness & Sustainment

- Sustaining the Current Force - \$1.9B (FY04)
- 247 Logistics Assistant Representative / 161 Field Software Engineers
- 51,426 National Stock Numbers Managed - Half the Army Inventory
- 200+ Systems/215M Lines of Code – Software for the Majority of the Army's Deployed Systems
- 887 Fieldings/762 New Equipment Training Missions in FY04
- Managed and Executed \$714M in Joint C4ISR Depot Workload



Expertise Projected in Support of World Operations for the Warfighter



Deployed in 25 Countries



AM
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Single Portal For the Warfighter

S Based
Support



FORT
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Fort Monmouth Provides Around the Clock Support to the Joint Warfighter

- 24/7 Emergency Operations Center for C4ISR Systems
- Quick Reaction Solutions
- Immediate Access to Subject Matter Experts
- Urgent Acquisition of Supplies and Services

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EIS

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Intellectual Cap

Today's Status

- Government Engineers and Scientists: 1,885
 - Government Technical and Subject Matter Experts: 1,164
 - Mission Support: 1,095
 - Government Other: 632
 - Scientific and Engineering Technical Assistance (Embedded): 1,543
-
- 6,319

Certified Acquisition Positions: (2,135)

Patents: 46 Applications Filed in FY04 (Portfolio of Over 3,000)

**Degrees: 66% with Bachelors Degrees
25% with Masters Degree or Higher**

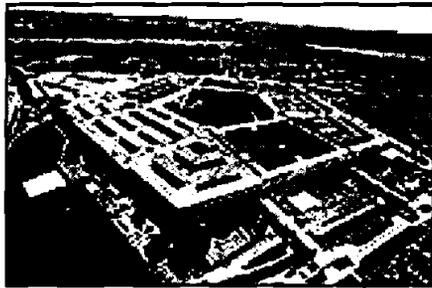


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C4ISR System of Systems Integration

Tactical, Strategic and Sustaining



C4ISR

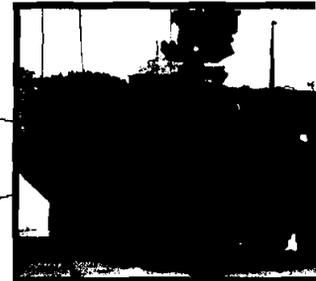


C4ISR



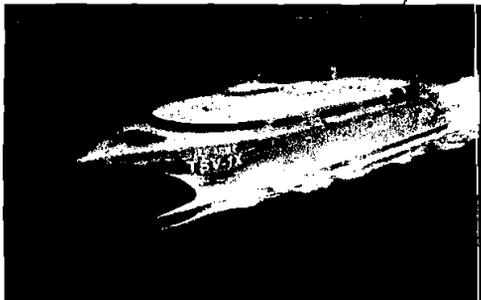
C4ISR

TEAM
C4ISR

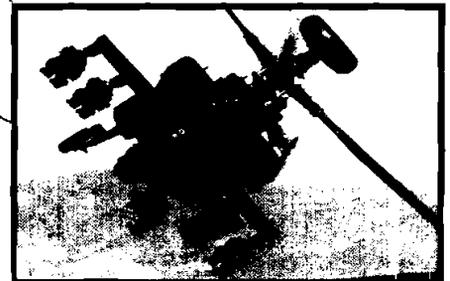


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Solo

Comms

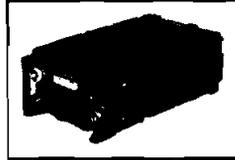
MP HF



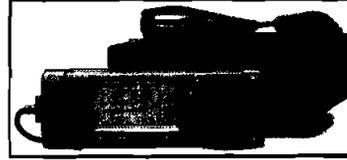
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ASIP



ICOM



Batteries



Command and Control



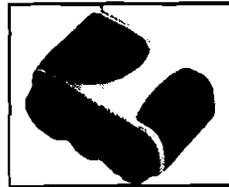
GPS



Night Vision



Laser Range Finder



Antennas





Aviat

Comms

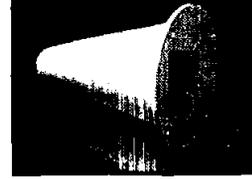
HF/SINCGARS



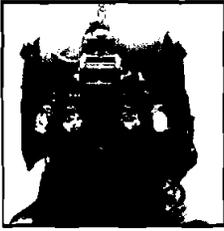
PRC 112



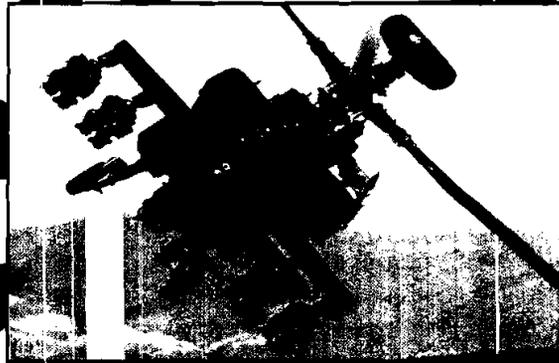
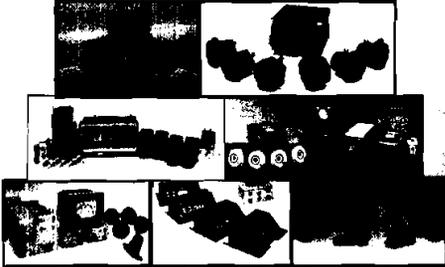
Antenna Designs
Cosight Analysis



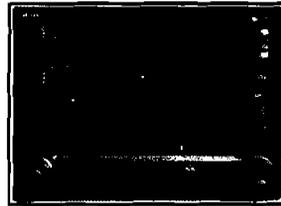
Night Vision



Aircraft Survivability Equipment



GPS



Embedded ISC
BFT



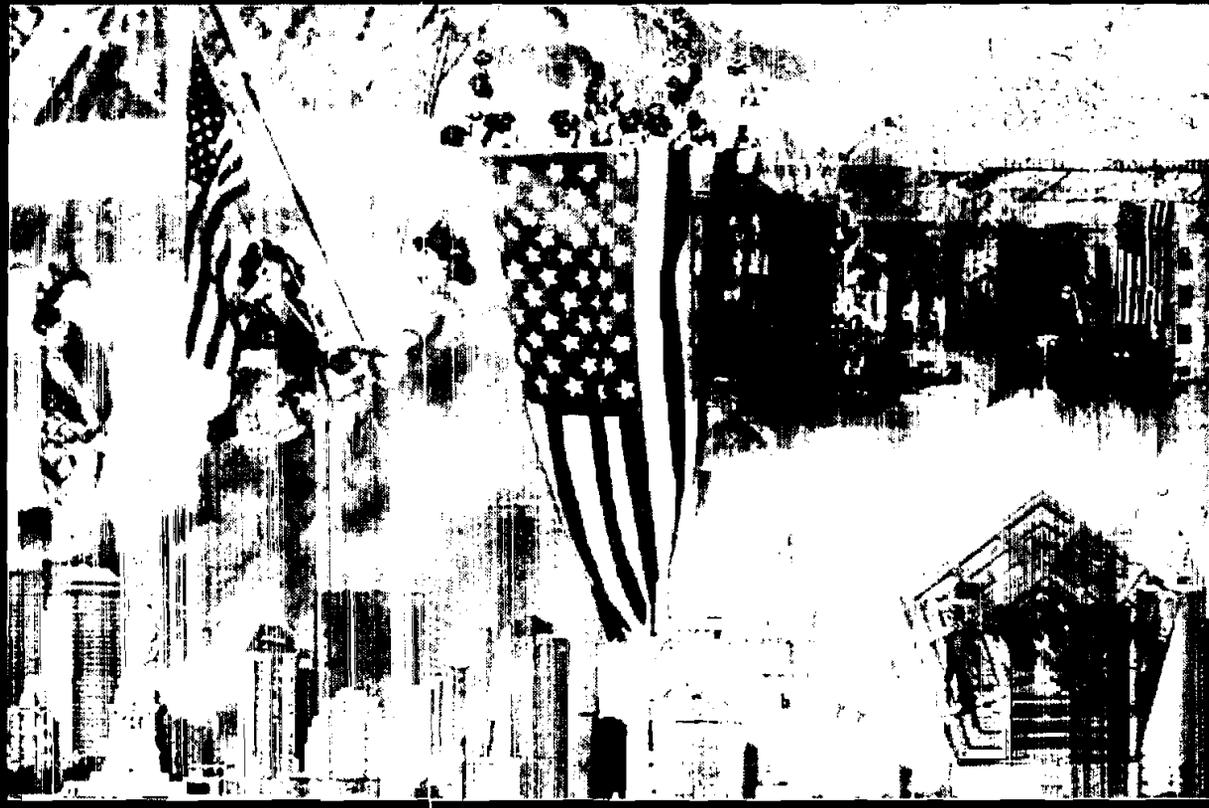
Target Acquisition
and Pilotage Vision





Homeland Defense Vic

Team C4ISR Support to World Trade Center Search and Rescue



C4ISR for Homeland Defense

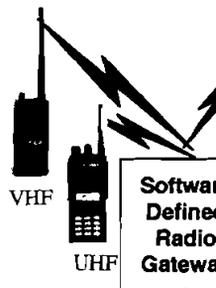
- The Army and the Department of Homeland Security Should Join Forces to Better Equip Emergency Responders to Handle Terrorist Attacks
- Improved C4ISR for Homeland Security Would Yield a High-payoff Capability that Offers Great Return On Investment for the Nation
- The Army's Network-centric Approach to Operations Could Serve Emergency Responders Equally Effectively
- The Requirement for C4ISR is Ubiquitous, Whether for The Army's Future Force or for the Future Emergency Responder

THE
9/11
COMMISSION
REPORT



Support to Homeland Defense

- NYC Critical Infrastructure Protection
- Port Authorities NY/NJ Emergency Operations Center
- First Responder Communications
- Network Information Assurance Solutions for New Jersey
- Federal Emergency Management Agency Region II and Corps of Engineer Continuity of Operations Site



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... from Current to Future Force

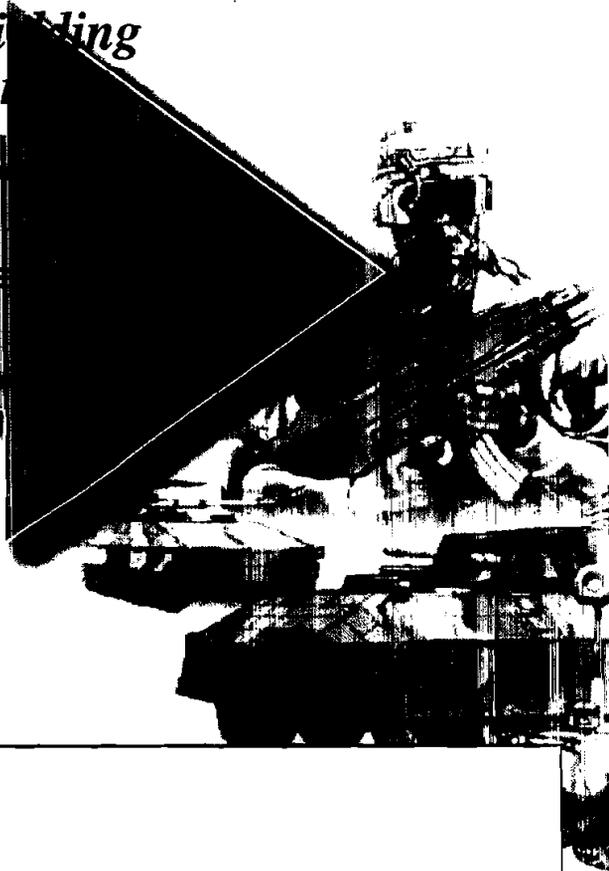
Enhanced Capabilities

Accelerated Fielding
And Development

CURRENT FORCE

MODULAR FORCE

FUTURE FORCE



Simultaneously:

- Supporting Current Operations
- Architecting and Equipping Modular Brigades and Deploying Units
- Developing Future Force Capabilities

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CAISR Mission

*From Concept
to Combat*



C4ISR Mission

Target

Deny the Spectrum To the Enemy

Enable Net Centric Operations

Command the Operation

Know the Enemy Day or Night

Protect the Spectrum For Own Use



Intelligence Systems



Surveillance Systems



Reconnaissance Systems



Communication Systems



Computers



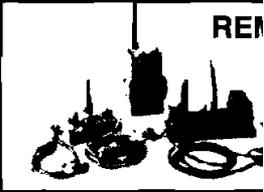
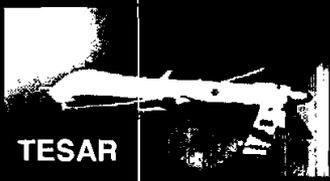
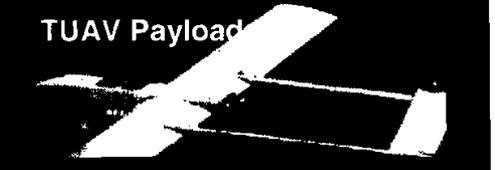
Command and Control System



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See, Hear, Disrupt & Destroy



LRAS3



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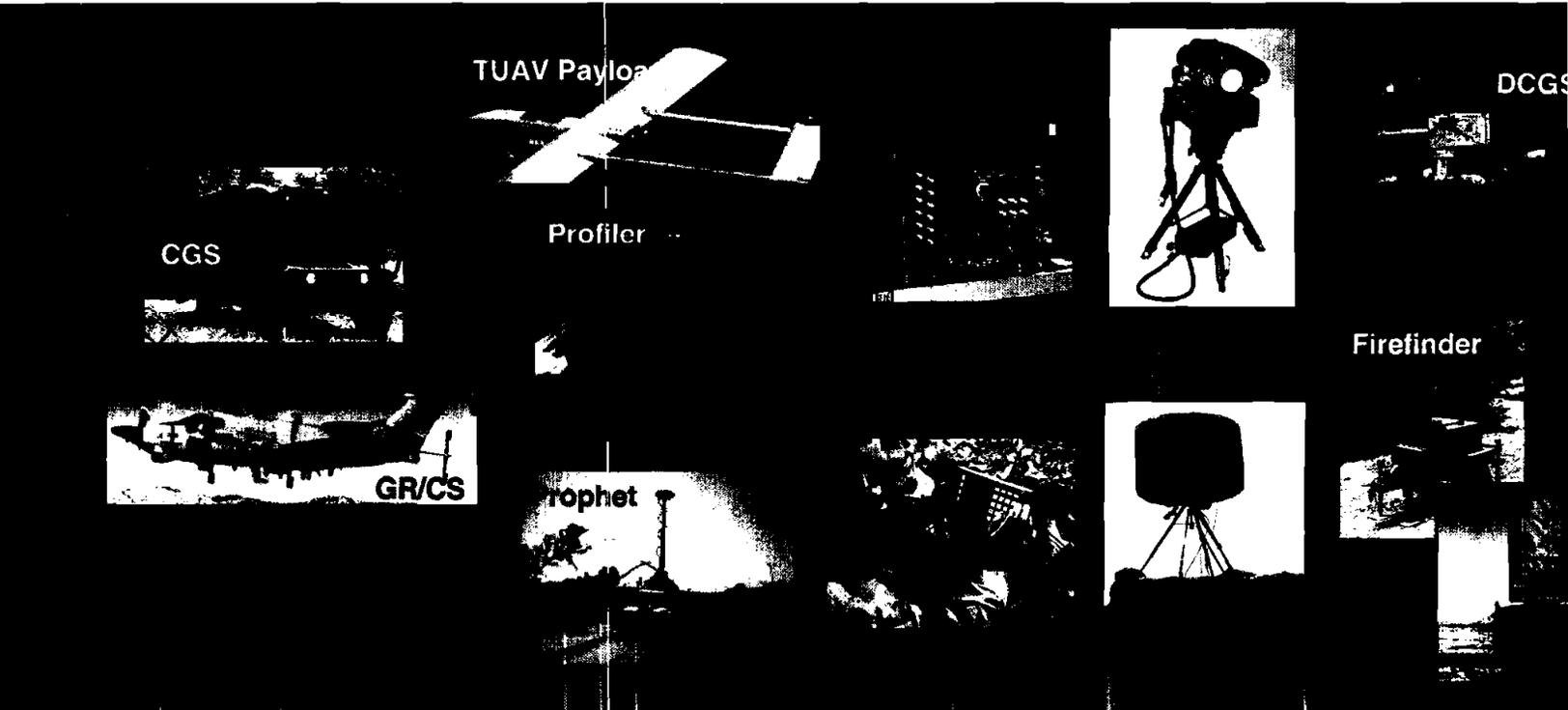
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See, Hear, Disrupt & Deny (Con



Communic



SMART-T



Teleport



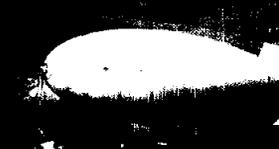
Predator



Global Hawk



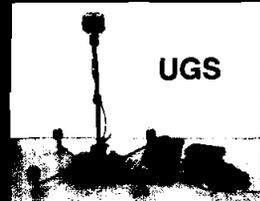
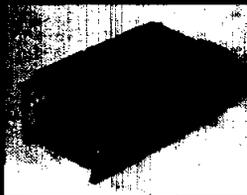
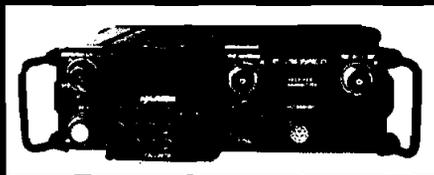
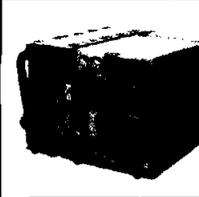
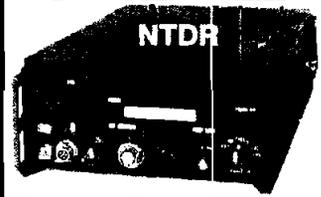
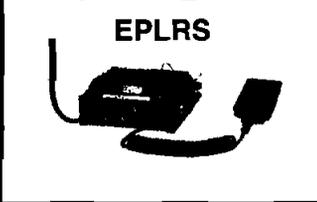
Hunter/Shadow

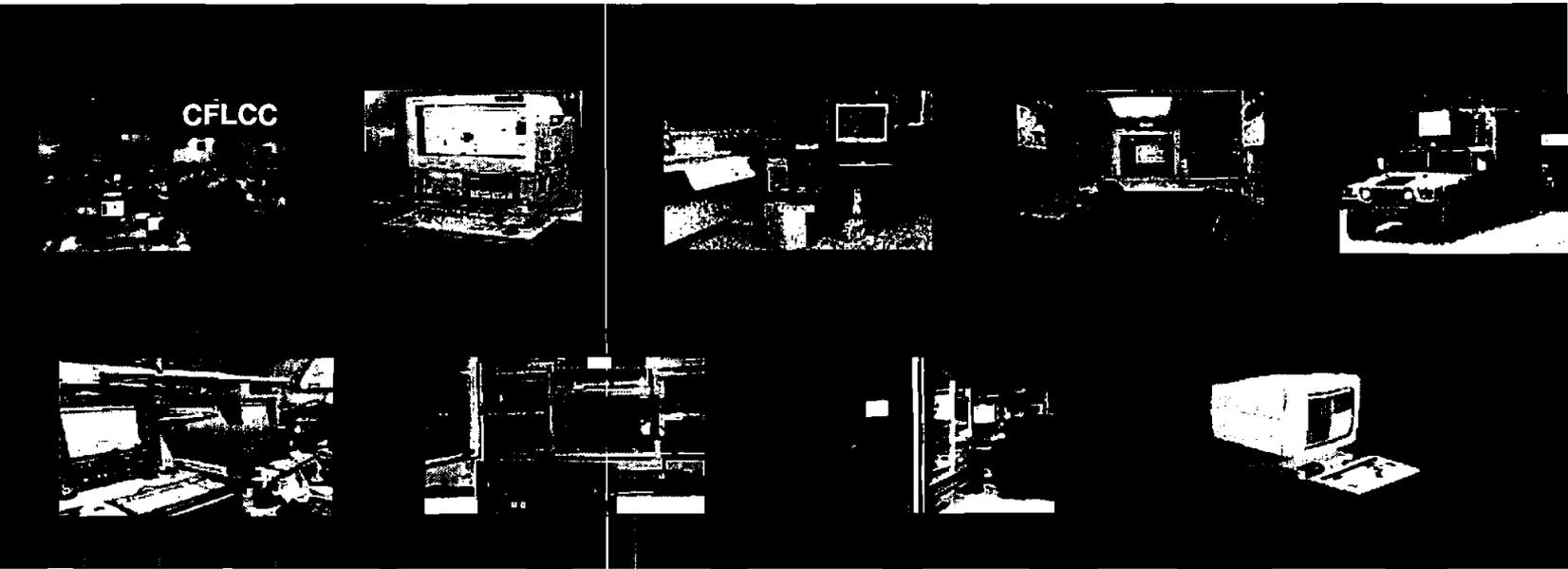


Apache



Communicate (Con

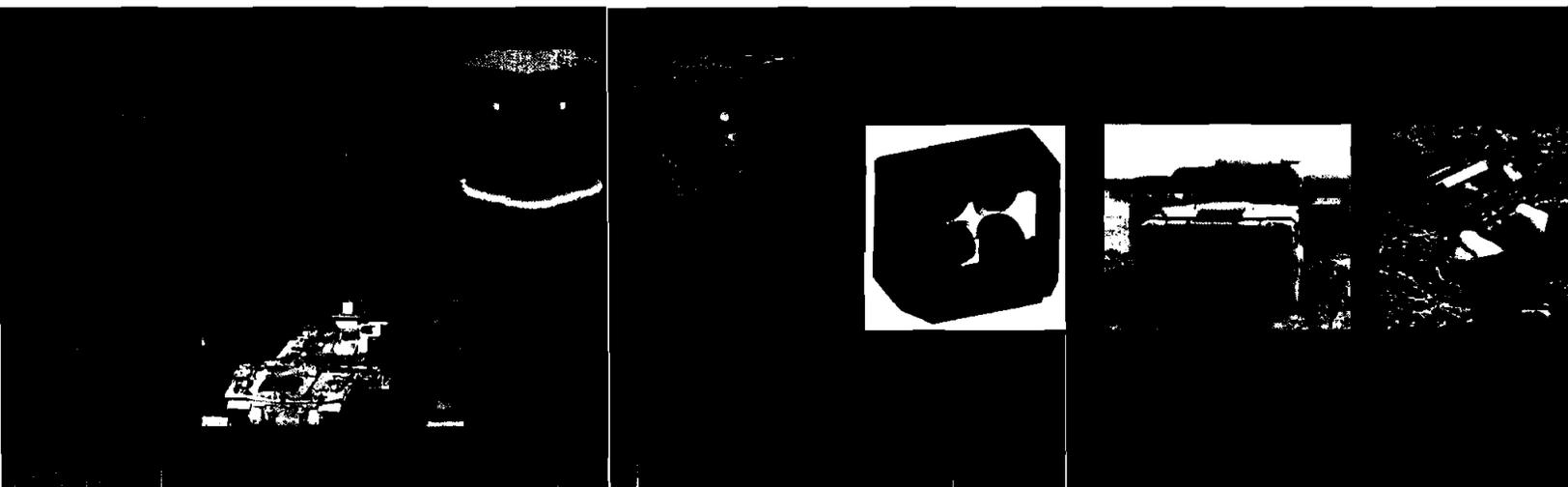
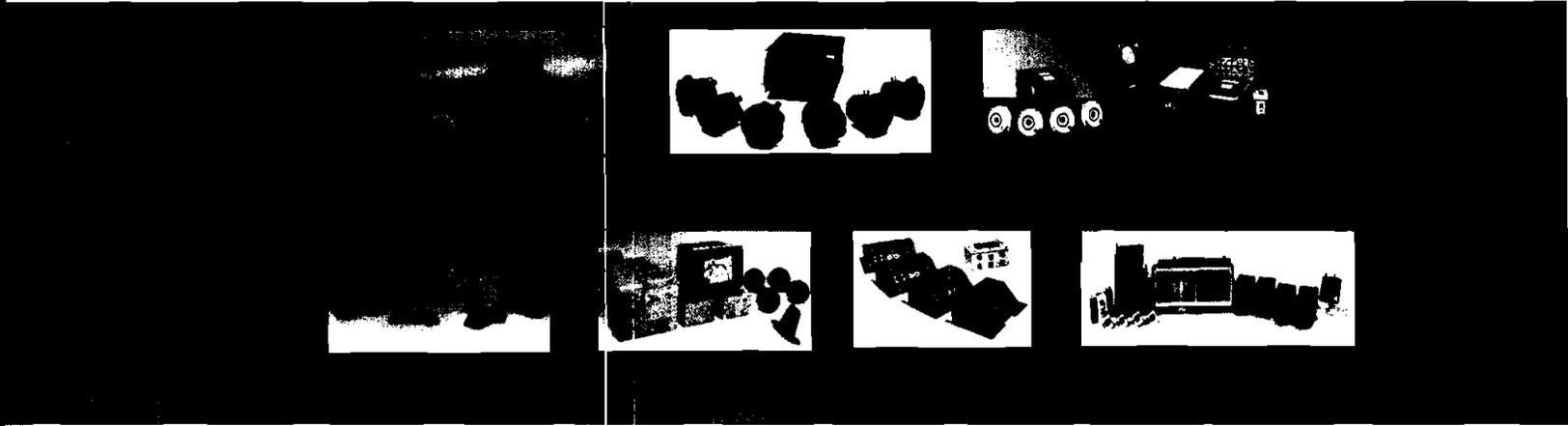




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Surv



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Survive (Con



ICE



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... from Current to Future Force

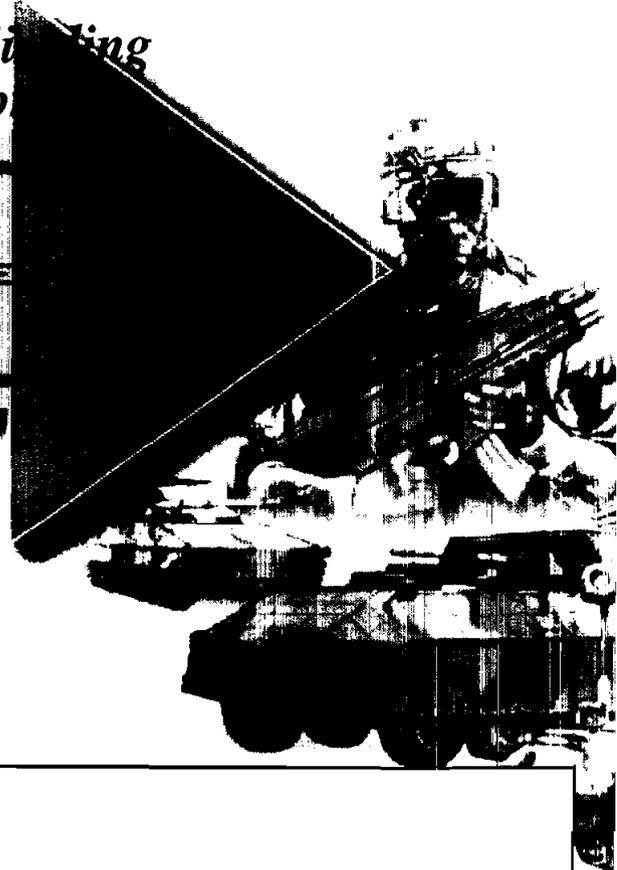
Enhanced Capabilities

*Accelerated Fielding
And Development*

CURRENT FORCE

MODULAR FORCE

FUTURE FORCE



Simultaneously:

- **Supporting Current Operations**
- **Architecting and Equipping Modular Brigades and Deploying Units**
- **Developing Future Force Capabilities**

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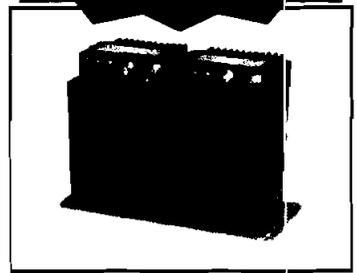
★ CERDEC

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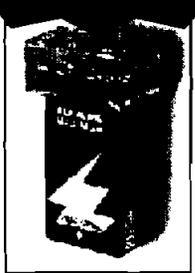
From Concept to Com

92 Systems in 5 Weeks
10,000 Fielded to Date



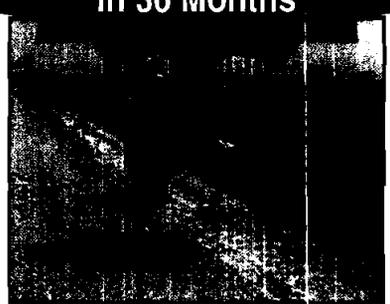
WARLOCK

384,000 Systems
in 90 Days



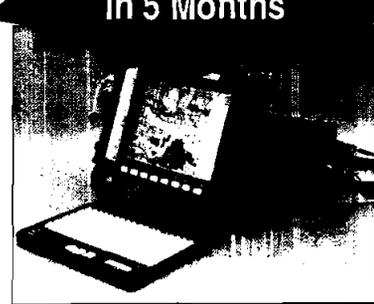
Joint Combat ID

650 Systems
in 36 Months



HSTAMIDS

1,200 Systems
in 5 Months



FBCB2

*Quick Reaction Capabilities
Adapted and Adopted to Wartime Needs*

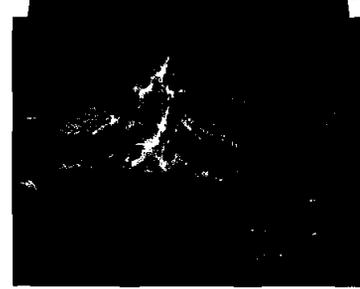
From Concept to Combat (Con

62 Units
in 1 Month



Omni Sense

3 Systems
in 3 Months



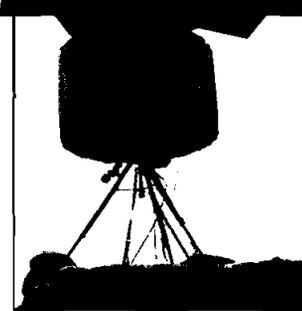
Lynx SAR

2 Systems
in 4 Months



GUARDRAIL

29 Systems
in 12 Months



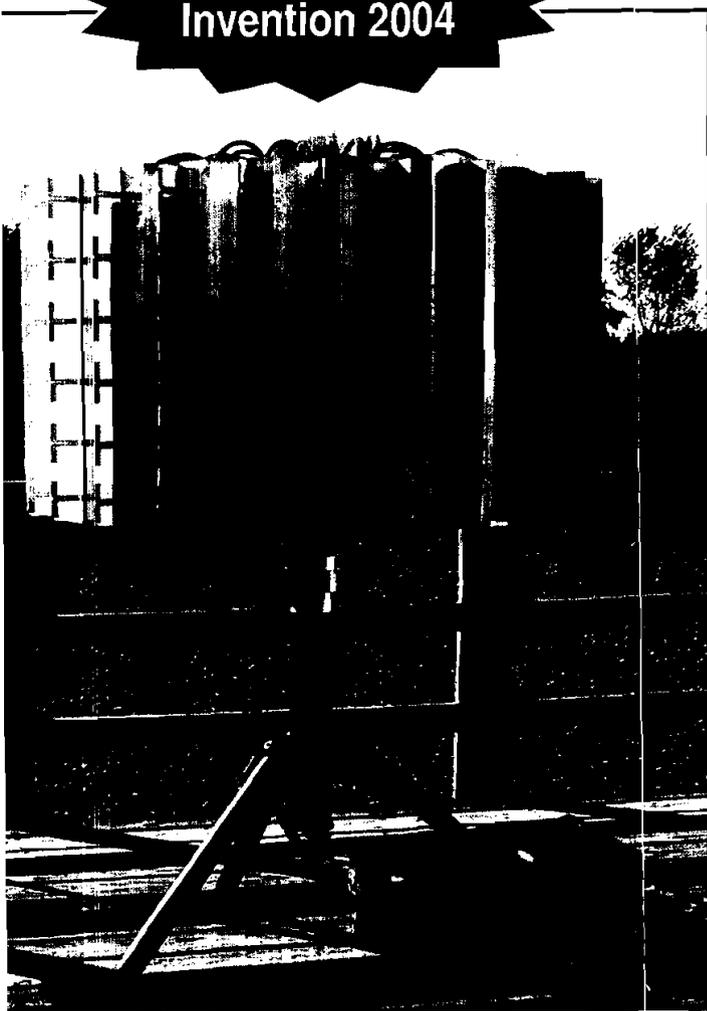
LCMR

*Quick Reaction Capabilities
Adapted and Adopted to Wartime Needs*

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Lightweight Counter Mortar Ra

Army Greatest
Invention 2004



- Rapid Response to Special Operations Forces Requirements and three Operational Need Statements
- 18 Systems Delivered in 2004 (29 Total)
- Detects and Locates Mortar Fire Beyond Mortar Range; 360 Degree Coverage
- Locates with Accuracy Sufficient to Respond with Combat Air or Counter Mortar Fire
- Man Packable
- Communicates with Operator via Personal Digital Assistant

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Radar Roadmap

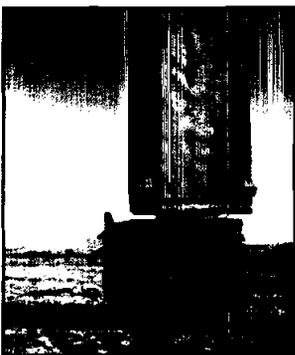
Past

Present

Future



AN/TPQ-36



AN/TPQ-37



3rd Gen



AN/TPQ-36



LCMR



AN/TPQ-37



CRA



Systems and Capabilities Have Been Developed, Updated and Graded as the Threat Evolves, to Enhance and Extend the Product's



Support to Current C

• *Reset*

- \$2.0B Through FY05
 - \$721M Executed in FY05 to Date
- 180 Battalions
- 75 Different Weapon Systems
- 4,495 Items Done to Date

• *Software Support*

- Responded to Over 8,500 Software Support Requests (OEF/OIF)
- 171 C4ISR Software Upgrades Fielded in the Last 12 Months
 - 83 to OEF/OIF
- 161 Field Software Engineers
 - Average 45 in Theater at Any Time

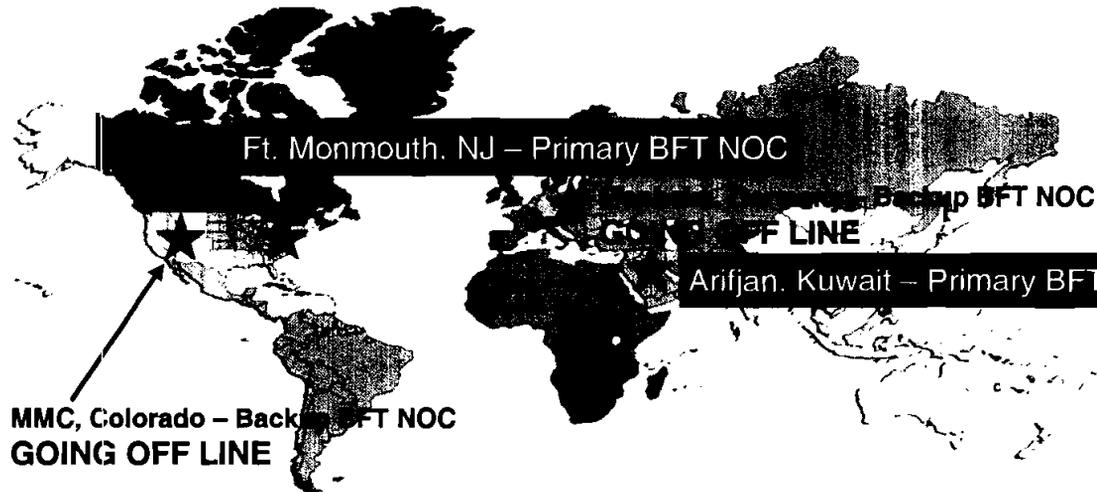
Support to Current Ops (Con

Specialized Services to Warfighters

The Network Operations Center for Logisticians

The Network Operations Center for Joint Task Force

Other Contingency Sites Both Classified and Unclassified



- What does the Ft Monmouth NOC do?**
- Information Hub via Reachback
 - Provide Coverage for Units Training to Redeploy OCONUS
 - Diagnostic Cell for Testing and Integration



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... from Current to Future Force

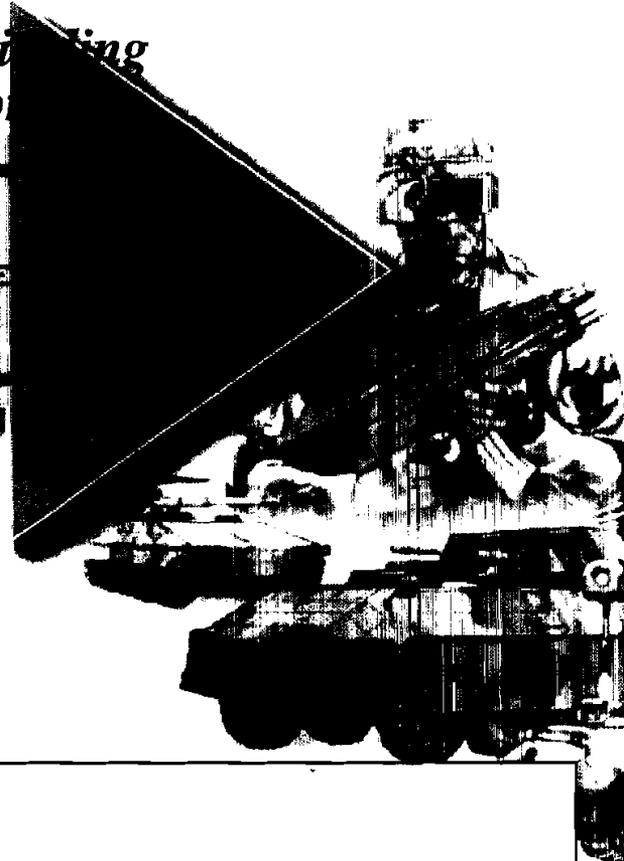
Enhanced Capabilities

*Accelerated Funding
And Development*

CURRENT FORCE

MODULAR FORCE

FUTURE FORCE



- Simultaneously:***
- Supporting Current Operations
 - Architecting and Equipping Modular Brigades and Deploying Units
 - Developing Future Force Capabilities

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Building the Modular Army as Execute the War on Terror

OIF/OEF 05-07 Rotation OIF/OEF 06-08 Rotation OIF/OEF 07-09 Rotation

	FY04	FY05	FY06	FY07
Division (UEX)	3 rd ID	4 th ID	1 st CAV	2 ID
Brigade (UA)	101 st	10 th MI	25 th ID	1 st ID
Sub-Brigade (SBCT)	SBCT2	SBCT3	SBCT4	SBCT5

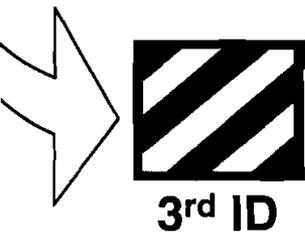
Modularity: The Army's Major Force Transformation Initiative Involves the Total Redesign of Operational Army Into a Larger, More Powerful, Flexible and Rapidly Deployable Force

ARNG

	FY05	FY06	FY07	FY08
Division (UEX)	●	●	●	●
Brigade (UA)	30 HVY, 81 HVY, 39 IN	118 HVY, 256 HVY, 276 ACR (HVY), 58 IN, 155 HVY, 1 HVY	48 HVY, 41 IN, 218 HVY, 2 IN, 55 HVY, 37 IN	49 IN, 3 IN, 50 IN, 66 IN, 149 IN, 2 IN, 56 SBCT

- Reengineered the Architecture to Allow for Technology Insertion
- Integrated and Delivered 20 Battle Command, 7 Communications and 15 ISR Systems (42 total)
- Inserted Selected Capability Upgrades
- Sustained the Unit (\$48M, 73,000 parts)
- Reset (\$23M)

Fielded Over 10,000 Items



12 Months from Concept to Combat



Army Force Generation Model

Role:

Engineer the architecture to Allow for Capability Upgrades

Equip and Reset the Unit

in the Unit

and Selected Systems

Sustain the Unit

Access for Technology

Retention



**77 Brigade Combat Teams (BCT) to Be Built
OpTempo Has Increased**



... from Current to Future Fo

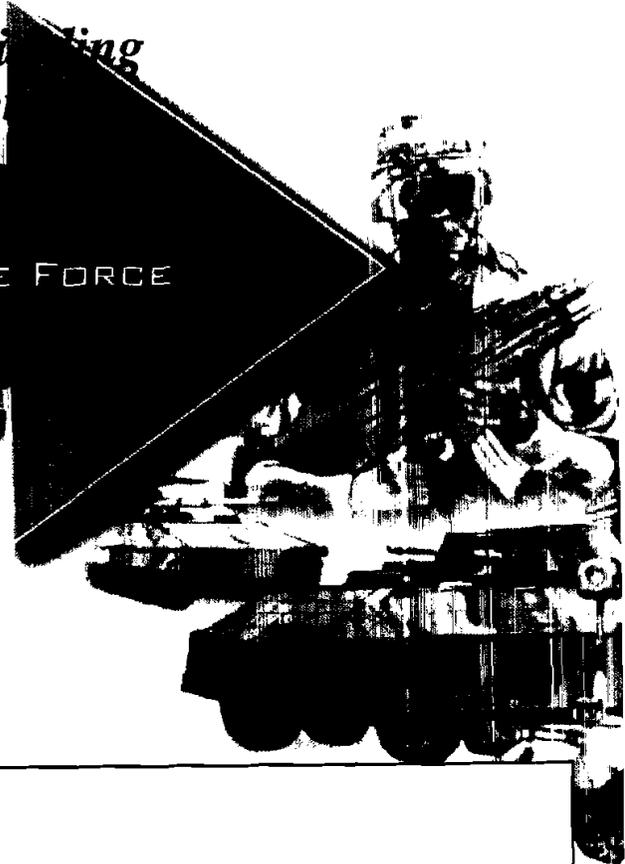
Enhanced Capabilities

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CURRENT FORCE

MODULAR FORCE

FUTURE FORCE



Simultaneously:

- Supporting Current Operations
- Architecting and Equipping Modular Brigades and Deploying Units
- *Developing Future Force Capabilities*



Enabling Transformat

Future Force C4ISR Systems
19 Programs of Record

C4ISR Technology
Providing 67% of Future Force
Critical Technologies

Coordinated Program Management and
Engineering (PM UA NSI)

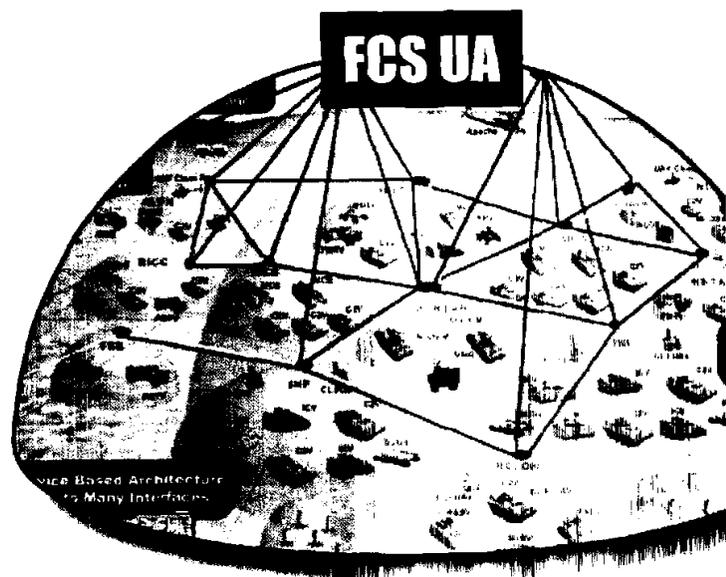
Experimentation & Test

Executing Risk Reduction Testing

and Evaluation for Spiral 1 and

Joint Expeditionary Force

Experiment 06



- Future Force Characteristics – Responsive, Deployable, Agile, Versatile, Lethal, Survivable Sustainable...
- A New Way of Joint Warfare
 - Dominant Situation Awareness
 - Networked Weapons Systems
 - Joint Interdependence to Small Unit Level
- More Strategically Responsive Land Force
 - Lighter, More Air and Sea Transportable
 - Reduced Sustainment Footprint/ Reachback Days Combat w/o Re-Supply
- Technology Enabled - Spiral Development/Inse
- Capabilities Based Force for Combatant Commanders Now. . .Future!

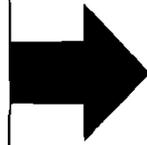
*Laboratory, Experimentation
and Certification Facilities*

From Concept
to Combat

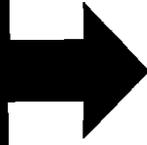


Facilities in Support of Program Lifecycle Management

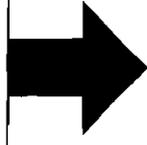
Concept Refinement



Modeling and Simulation

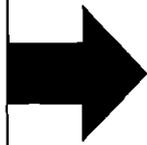


Laboratories and Fabrication Facilities



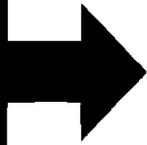
System Development and Demonstration

System of Systems Integration and Test and Field Experimentation



Production and Deployment

National Test Facilities



Certification and Sustainment Facilities

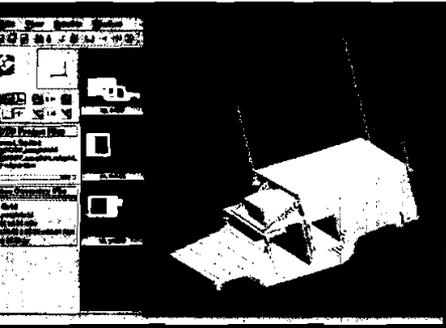


Modeling and Simulation



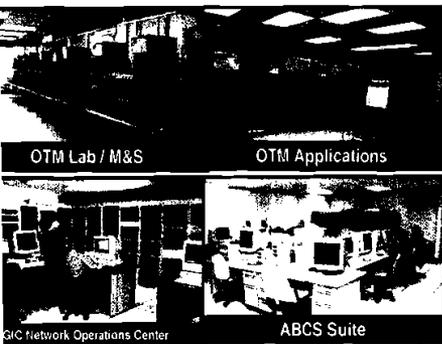
Virtual Prototyping Lab

- Allows for interaction between design engineers and customers/users to compare alternatives prior to investing large resources in manufacturing
- Networked with computer-aided design and manufacturing for rapid hardware prototyping



Antenna Simulation Lab

- Optimizes installed antenna performance on platforms
- Minimizes co-site interference between multiple antennas on individual platforms



Government Integration Center

- Network Hub which provides connectivity between virtual and live experimentation facilities



Laboratory



Command and Control Development Lab

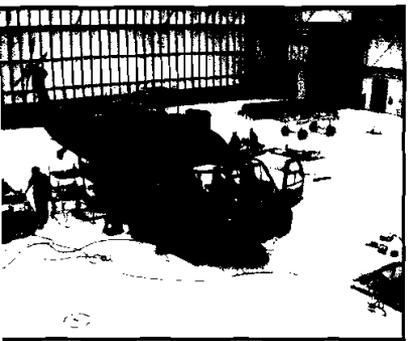
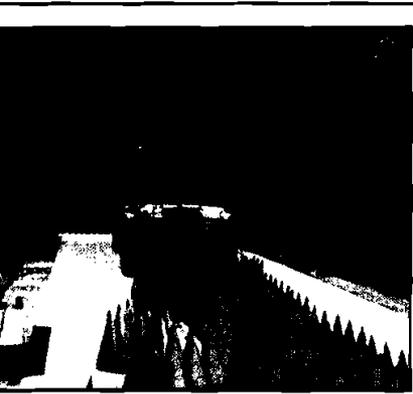
- Supports development of command and control applications for tactical and strategic level
- Interconnected to communications labs for system level performance assessments



Electronic Warfare and Signals Intelligence Lab

- Simulates Guardrail/Common Equipment representative of all Army fielded systems
- Provides near real-time Enemy Situation Awareness, Intercept ID, Precision Location
- Supports Analysis of Communications and Electronic Intelligence Emitters

System of Systems Integration and Test



Anechoic Chamber

- Shielded Facility which protects highly sensitive Testing from counter intelligence
- Controlled environment which allows for the measurement of technical performance with the greatest accuracy without external interference

Mine Lane Facility

- Environmentally controlled and instrumented facility to test state of the art mine detection technology in world wide representative soils.
- Supporting military and humanitarian demining efforts

Aviation Fabrication and Test

- Installation of C4ISR Mission Packages
- Designated as Joint UAV Flight Test Facility
- Designated As An Experimental Flight Activity

Certification and Sustainm

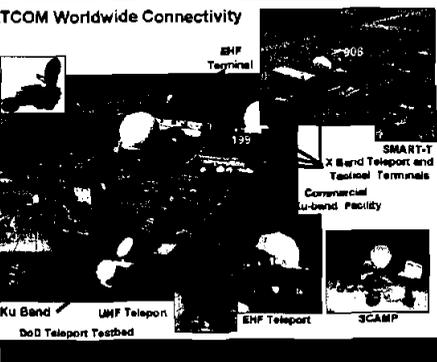


Replication, Distribution, Installation, and Training Support Facilities

- Provides software/firmware and data products and services such as battlefield software, digitized maps, etc. to the soldier on the battle

Satellite Communications Facility

- Provides the Capability to simulate actual problems reported from the field, develop fixes and test proposed solutions

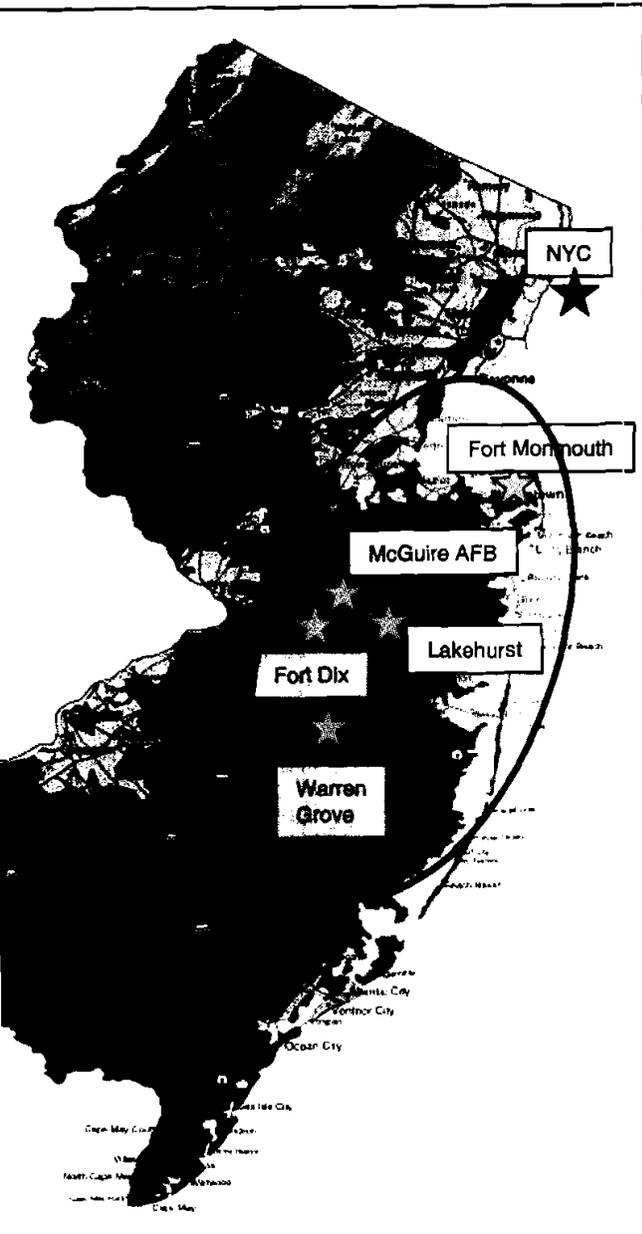


Joint DOD Satellite Communications Certification Facility

- Strategic Satellite Ground Station Teleport Mega Center
- Tactical Satellite Ground Station Center
- DOD Global Information Grid Access to all Command, Control, Intelligence and Communications Centers



AM C4ISR On-The-Move Live Experimental



Testbed and Ranges

- Access to a Unique Environment, Distributed Between the Laboratories and Workshops at Fort Monmouth and the Fields, Forests and Ranges of Fort Dix, McGuire AFB and Lakehurst NAES
 - Extensively Instrumented and Calibrated to Collect C4ISR Data
- Access to U.S. Army Reserve and National Guard Units
- Connectivity to TRADOC Battle Labs, Industry, Academia and Coalition Partners

AM
C4ISR

FORT MONMOUTH

C4ISR OTM Testbed Overv



C4ISR
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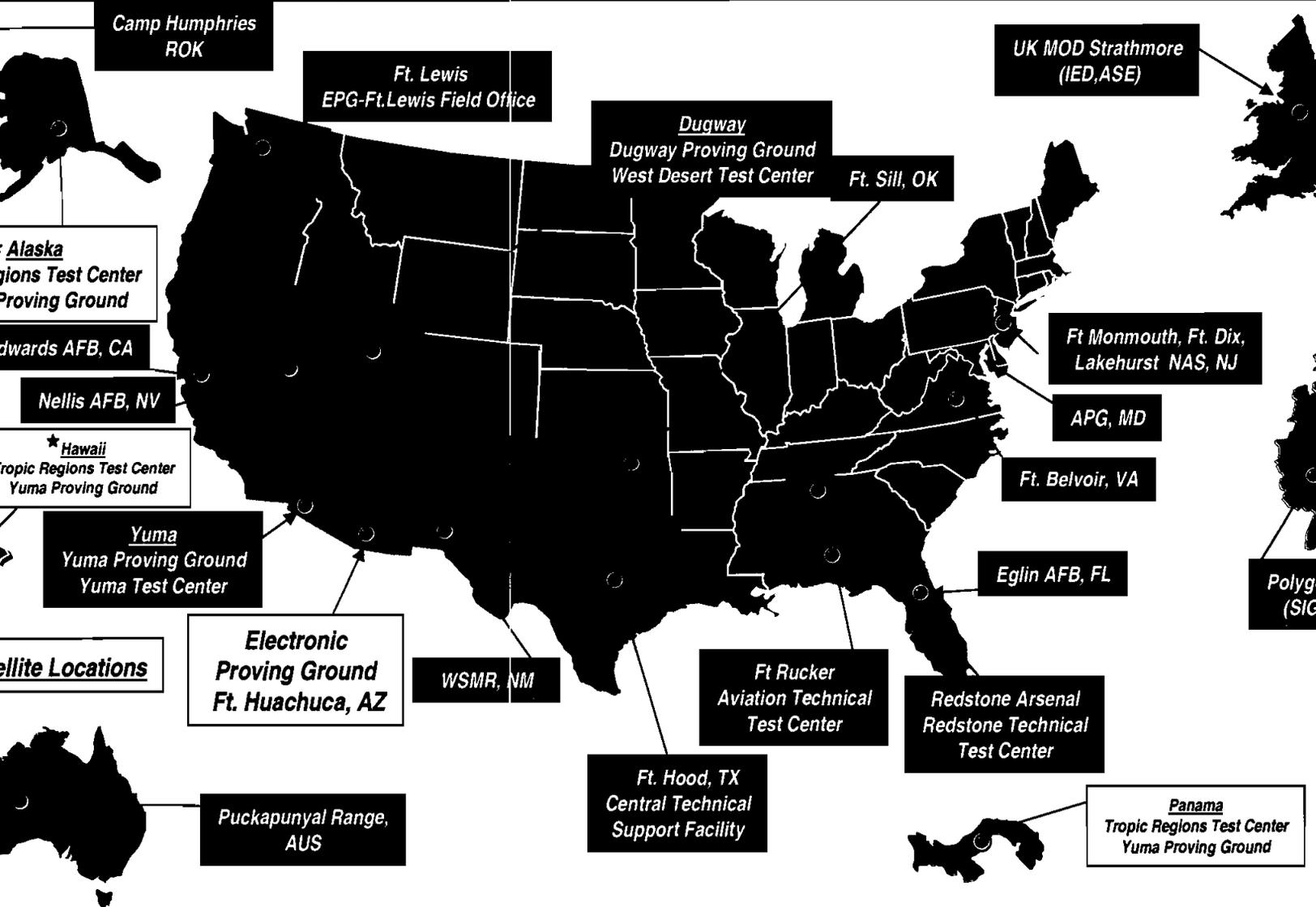
PEB
IEWSS

★ CERDEC
US ARMY - DEVCOM

PE EIS

CEOL
Communications Division

Major Ranges and Test Cent



Team C4ISR Has Extensive Intellectual Capital in the Engineering, Development, Acquisition and Sustainment of Complex C4ISR Systems

Team C4ISR's Location in NJ Provides Ready Access to Highly Trained Personnel from Both Industry and Academia

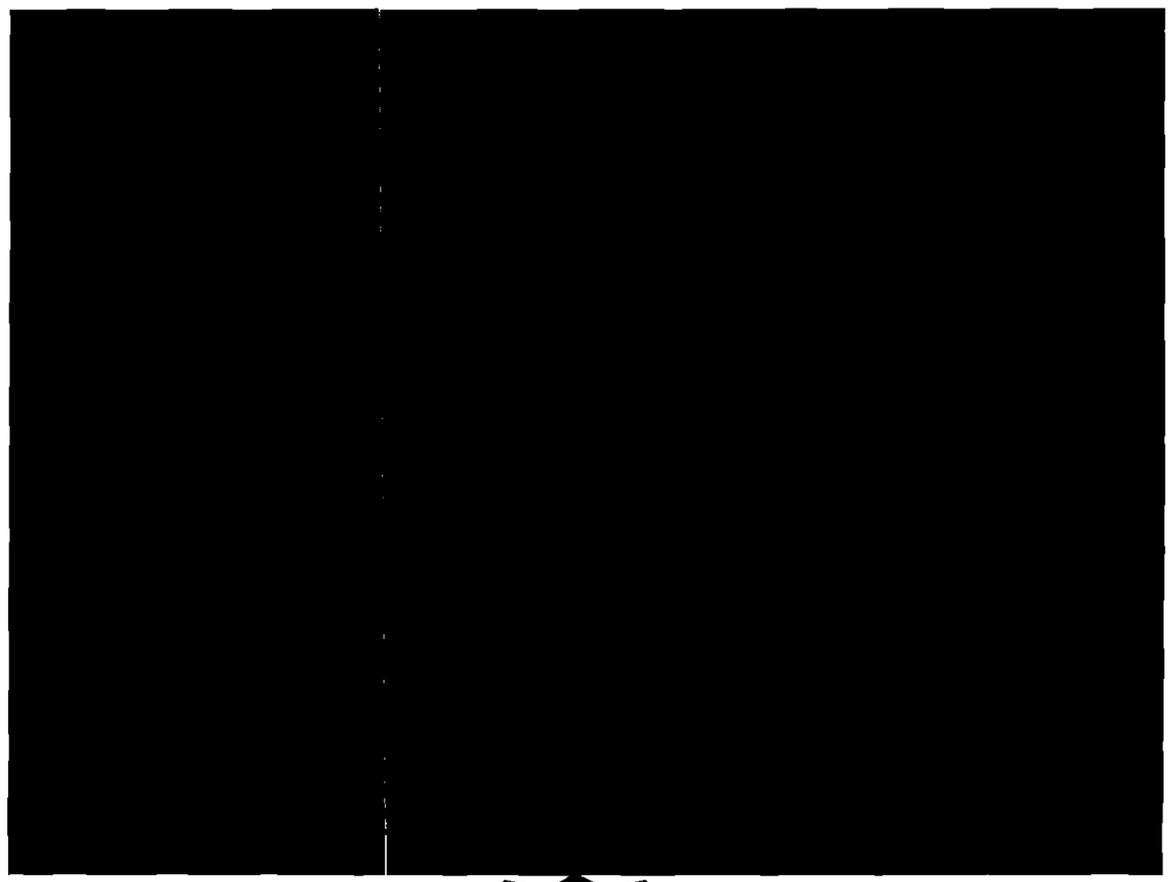
Team C4ISR Simultaneously Leads the Execution of Support to Current Operations, Modularity, and Transformation to the Future Force

Access to the Fort Dix Testbed Enhances Our Ability to Characterize Integrated C4ISR Systems of Systems Prior to Independent Testing at a Variety of Test Centers Around the US



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