“The Big Five”

Warfighter Outcomes to Guide S&T Investment

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29 July 08
ARCIC Mission & Vision

Mission

The Army Capabilities Integration Center leads the development and integration of force capabilities across the DOTMLPF for the Army within a Joint and Multinational environment to support Joint Force Commanders.

Vision

World class professionals developing innovative, integrated, resource-informed, and outcome-based solutions for the current to future force.

Essential Tasks from Mission Analysis

**Lead =**
- **Develop**
- **Determine**
- **Integrate**
- **Design**
- **Validate**
- **Coordinate**

- Support the Commanding General, TRADOC
- Lead determination and integration of force requirements and synchronize the development of DOTMLPF* solutions across the Army.
- Provide the management structure for identifying capability gaps and directing analytical support for DOTMLPF developments.
- Validate research and development priorities for key Army Science and Technology needs
- Develop and validate integrated operational architectures depicting warfighting capabilities
- As the lead Army agency, coordinate with Joint agencies and other Services for identification and integration of joint required capabilities
- Exercise integration coordination authority across the Army in matters pertaining to identification of required capabilities and DOTMLPF integration

*DOTMLPF=Doctrine, Organizations, Training, Materiel, Leader development and education, Personnel. Facilities
# ARIC Priorities

**Build the force: by 2024, field the modular force as envisioned by the Army Capstone Concept.**

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<th>Connect</th>
<th>Protect</th>
<th>Project</th>
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| - Develop affordable and achievable LandWarNet and LWN Systems (WIN-T, JNN, JTRS, Rifleman’s Radio)  
- Enable Unified Battle Command  
- Develop Network Vulnerability Strategy  
- Develop bridge to Ground Soldier System (Land Warrior next…)  
- Strategic Engagements  
- FCS strategic communications | - Optimize current and future force readiness; minimize operational risk  
- Develop organizationally based force protection capabilities | - Deliver expeditionary full spectrum capabilities to the force.  
- Joint Future Theater Lift  
- Joint Future Tactical Lift  
- Fill current force gaps with accelerated capabilities while modernizing the future operating force |

### Think and learn for the Army: provide conceptual framework beyond 2024.

- QDR Roles and Missions Support to ARSTAF  
- Collect and analyze operational data to better represent Irregular Warfare  
- Develop Human Dimension, Generating Force and Capstone Concepts  
- Execute CSA/CG TRADOC Future Warfare Study  
- Campaign of Learning  
  - Leading from the edge  
  - Baseline and integrate analyses: Modular Force, FCS, and SBCT.  
  - Conduct other key analyses reflecting force effectiveness;  
  - OBA with proponent support and Strategic Choices  
  - Tactical Vehicle Strategy  
  - RSTA and ISR support to BCT  
- Capability Needs Analysis; timely influence decisions to meet warfighter needs

### Adapt community of practice culture to deliver organizationally-based solutions.

- **People**  
  - Training, Education, and Certification  
  - NSPS and Evaluation links to Objectives
- **Develop and execute ARIC Campaign Plan; execute FY08 AC2DP**
- **Implement COEs; develop FCS COE**
ARCIC Campaign Plan (ArCP)  

As of 20 Jun 08

ARCIC Outcomes

- Revise ACS Family of Concepts
- Shape Future Warfare
- Provide Joint Inter-dependencies

ARCIC Major Objectives

- Capstone Concept Revision
- Generating Force) Concept
- Human Dimension Concept
- Future Games
- Future Study Plan
- Joint Synergy
- Integrate Army Doctrine into Joint

- Conduct Accelerated Capabilities Practices
- Spin Out Capabilities
- Combat, CS, and Protection Capabilities
- Future Manned and Unmanned Aviation
- Science and Technology Integration

- Provide Integrated DOTMLPF Solutions
- Enable the Network
- Provide Capabilities to Enhance Strat Mobility
- Improve Log Cap. in Mod Force
- Lead TRADOC in TAA
- Lead Organizational Domain Analysis

ARCIC Initiatives

- Resource-informed
- Integrated
- Outcome-based

Prioritize and Resource

- Develop TRADOC/ARCIC Policies and Guides
- Develop Key Strategic Initiatives
- Shape Strategic Documents/Plans
- Implement NSPS
- Enhance Developments CoP
- Develop Strat Engagements
- Provide Ops Architect. Environment

Resource-informed
Integrated
Outcome-based
FY09/10 Army Enterprise Level Learning Plan Overview

ARCIC Campaign Plan
- Outcome A
- Outcome B
- Outcome C
- Outcome P

Prioritized Top-Down Learning Objectives
- IW
- LandWarNet
- Build Partnerships
- Human Dimension
- S&O Mobility
- Sustainment
- Generating Force

Director ARCIC Guidance

Director ARCIC Approval
- Resource Informed Experimentation Plan
  - Experiments
  - Studies
  - S&T
  - Asymmetric
  - Wargames
  - JIIM
  - Leverage Other Learning Venues

AEP Board
- Review Results
- Shapes future learning objectives
- Provide top-down guidance
- Enables informed decisions

OEF/OIF

Army Community Learning Demands
- Opportunities

Bottoms Up

TOPP TOMS UP Innovation
FY09 Experimentation Guidance

- More smaller, iterative experiments, that demonstrate flexibility
  - Link experiments back to initiator

- Strengthen linkages to:
  - Science and Technology
  - Joint, Multinational, and SOCOM
    - Map Warfighting Challenges (WFCs) to experiments
    - More lash up of SOCOM and Army Experiments (GPS – SOF Integration)
    - Joint linkages such as Seabasing, Lift, Sustainment, and UAV
  - Future Force Integration Directorate (FFID) and Army Evaluation Task Force (AETF)
  - Programs and spin-outs
  - FORSCOM Centers of Excellence
  - “Leading from the Edge,” such as Experimentation in Theater

- Broaden EXFOR capability at Maneuver Center

- Focus across range of military operations

- Respond to top-down guidance:
  - Based on priorities and outcomes
  - *Not* based on things, platforms, and technologies

- Encourage bottom-up creativity and innovation

And...Get Soldiers involved with promising concepts and technologies earlier and more often

Learning Objectives
1. Irregular Warfare
2. LandWarNet
3. Building Partnerships
4. Human Dimension
5. Strategic & Operational Mobility
6. Sustainment
7. Generating Force
Focus on the Big Five

1 - Battle Command Network
2 - Counter IED and Mine
3 - Power & Energy
4 - Human Dimension
5 - Training
**Battle Command Network** - The Future Force must possess worldwide, beyond-line-of-sight network capabilities that are effective, layered, persistent, and protected. This network must integrate Command and Control for Joint Interagency Intergovernmental Multinational operations with a single, integrated universal tactical network accessible to the global information grid. It must be optimized for mobile operations and increase access and available throughput to all echelons and the individual Soldier through: dynamic, extended range, self-organizing and multilayered communications with collaborative decision and planning support capabilities.

**Counter IED and Mine** - The Future Force must have the ability to detect, identify and neutralize CBRNE obstacles and/or their components (Improvised Explosive Devices/Home Made Explosives - IED/HME) from a safe standoff distance. They need the capability to determine the type of threat, select the best method of neutralization, and ascertain the potential effects on the environment. Capability will allow the commander to maintain maneuver force momentum while protecting Soldiers and platforms from the effects of these obstacles.

**Power & Energy** - Provide enhanced agility to operate worldwide by the weight and volume of fuel associated with powering the force. Combat platforms require sufficient pulsed power to enable advanced lethality options and increased continuous power to enable superior tactical mobility, speed and an excess capacity for on/off board electrical power use while significantly increasing fuel economy. Emerging electrical components and systems require dismounted Soldiers to possess a radical increase of available power, at half the tactical weight.

**Definition of P&E…**

- Power (symbol: $P$) is the rate at which work is performed or energy is transmitted.
- Energy (symbol: $E$) is the capacity to do work.
- Work is force times distance (dot product) moved in the direction of the force.
**Human Dimension** - Provide Soldiers and leaders the ability to excel in a challenging and increasingly complex future operating environment by developing tools and technologies that enhance & restore Soldier cognitive and physical performance to function efficiently as an integral component of a network and society. Future accessions must focus on finding, enlisting, commissioning and retaining Soldiers based on their innate cognitive potential for ethical and moral decision-making. Soldiers must be able to interface with multiple unmanned systems, conduct multi-modal human computer interface, and multi-task across a wide spectrum of information input while mitigating the proportional increase in physiological and psychological stress and improving mental, moral and physical capacity and performance.

**Training** - Provide Soldiers and leaders the ability to excel in a challenging and increasingly complex future operating environment by developing tools and technologies that enable more efficient and effective training through live, virtual, constructive and mixed venues. Future training must enable the Future Force to impart more skills, faster, at lower cost and with greater retention than currently achievable. Soldiers and units must be able to be trained using non-traditional home station training techniques and technology and train prior to employment. Future training must enhance and account for individual proficiencies and learning rates - i.e. outcome based training. Future training and leader development must be completely adaptable and scalable to cover the full spectrum of operational challenges facing the Soldier.
Leading from the Edge - Accelerated Developments Environment

**Previous**
- Operational Environment
  - UNITS
  - RFI
  - REF
  - CALL
  - HQDA
  - LMCs
  - Industry
  - FORSCOM
  - JIEDDO
  - ARCIC

**Today**
- Operational Environment
  - UNITS
  - S&T Advisor
  - ARCIC
  - LNO
  - RFI
  - LMCs
  - CALL
  - JIEDDO
  - HQDA
  - Industry
  - FORSCOM
  - ARCIC

**Tomorrow**
- Operational Environment
  - Integrating Center
  - ONS validation forces a level of Coordination
  - Force provider facilitates coordination
  - Directed Requirements force a level of Integration (ODIN)

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**Decentralized Activities (Stove Pipes)**

**A Level of Centralization (Coordination)**

**Integrated Approach**
• Support to hundreds of Operational Needs Statements
• CBRNE Consequence Management Response Force (CCMRF)
• Maneuver Enhancement Brigade (MEB)
  • Conduct Maneuver Support operations
  • Conduct Support Area Operations
  • Conduct Consequence Management Operations
  • Conduct Stability Operations
• 20th Support Command (CBRNE): Counter CBRNE and WMD
• Route Clearance and Route Improvement
• Force Protection
• Law Enforcement Program
• Army Non-Lethal Scalable Effects Center
  • Launched Electrode Stun Device
  • Non-lethal Capability Sets
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TRADOC: Victory Starts Here!