



Conducting

Joint, Inter-Organizational and Multi-National (JIM)

Training, Testing, Experimentation

in a

Distributive Environment



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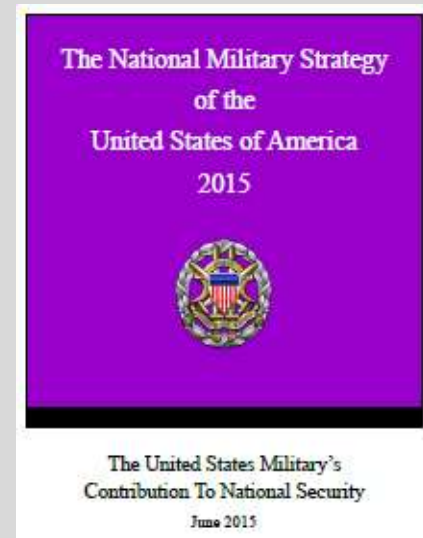
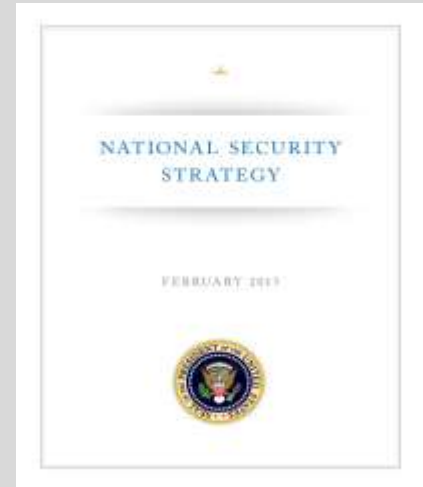




Strategic Landscape



- In an increasingly complex World, the U.S. faces a number of diverse threats and challenges from Nation – States and Trans-National players on a global basis
- Concurrently, the Armed Forces are faced with increased OPEMPO, force structure reductions, budget cuts and the threat of sequestration to balance the budget
- To offset these reductions, our National Security Strategy (NSS) and our National Military Strategy (NMS) mandate an increased internal investment in Joint RDT&E, coupled with a robust program of integrated training, testing and experimentation to maintain both our operational and technological edge
- In addition to these internal investments, the United States is placing an increased reliance, on our Allies and partners to play an increasing role in our collective security and is prepared to make a number of targeted external investments to provide our friends the capabilities they need to be effective





3rd Offset Strategy



- Changing the conditions of the environment to in an effort to gain a competitive advantage is referred to as an “Offset Strategy.”
- Offset strategies are designed top overcome the technological or quantitative military advantages of our adversaries.
- 1st Offset Strategy – U.S. leveraged our superior nuclear arsenal during the initial stages of the “Cold War” to offset the vastly superior soldiers numbers of soldiers and tanks of the Soviet Union and the Warsaw Pact
- 2nd Offset Strategy – Since then the U.S. the U.S. has leveraged integrated command & control, sensors, targeting and smart weapons to mitigate the quantitative conventional superiority of our adversaries
- In the face of budget and force structure challenges and the proliferation of technology to our enemies, DOD is seeking to implement a 3rd Offset Strategy to enable the U.S. to retain our technological and operational superiority, by optimizing the use of our current resources





3rd Offset Strategy Methodology



- Identify ways to leverage existing technologies and optimize the operational utility of development efforts by using innovation and key technology enablers
- To facilitate innovation, DOD has expanded the role of the DOS Strategic Capabilities Office, established Defense – Innovation Units Experimental (DIUx) and partnering with industry to leverage cutting edge solutions being developed in the commercial arena
- The Army Network Integration Evaluation (NIE) program, iForce 2025 and Beyond Advanced Warfighting Assessments (AWAs), and its recently created Rapid Capabilities are tools that are being currently used to get urgently needed capabilities to the Warfighter quickly
- In each case, technology is an important ingredient, but fielding this technology more effectively and efficiently, by coupling it with parallel developments in the area of doctrine, organization, training, materiel, leader development, personnel and facilities, along with a streamlined acquisition strategy are critical factors to our success





Joint, Inter-Organizational and Multi-National (JIM) Forces



- Joint
 - Army
 - Navy
 - Air Force
 - Marines
 - Coast Guard
 - National Guard
 - Other Reserve Components
- Inter-Governmental
 - Federal (Inter-Agency)
 - State (Inter-Governmental) Agencies
 - Local
 - Tribal
 - Non-Governmental
- Multi-National
 - Allies
 - Coalition Partners
 - International Non-Governmental Organizations

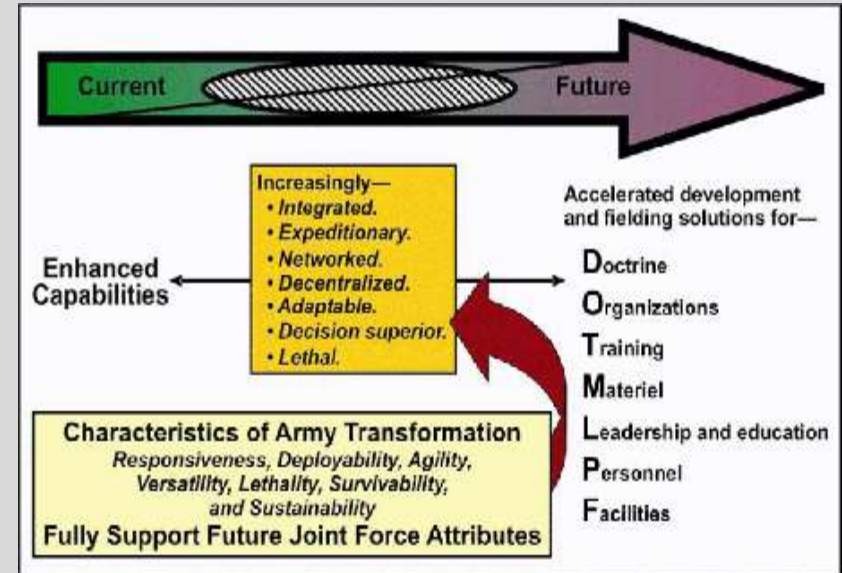




Innovation and Technology Integration as Operational and Strategic Enablers



- Innovation in DOTMLPF
 - D = Doctrine
 - O = Organization
 - T = Training
 - M = Materiel
 - L = Leadership and Education
 - F = Facilities
- Technology
 - C4ISR
 - Networks
 - Weapons Systems
 - Cyber
 - Unmanned Systems and Robotics
 - Virtualization, Cloud Computing and Big Data
 - Distributed Live, Virtual, Constructive and Gaming (LVCG) Simulations
 - Others

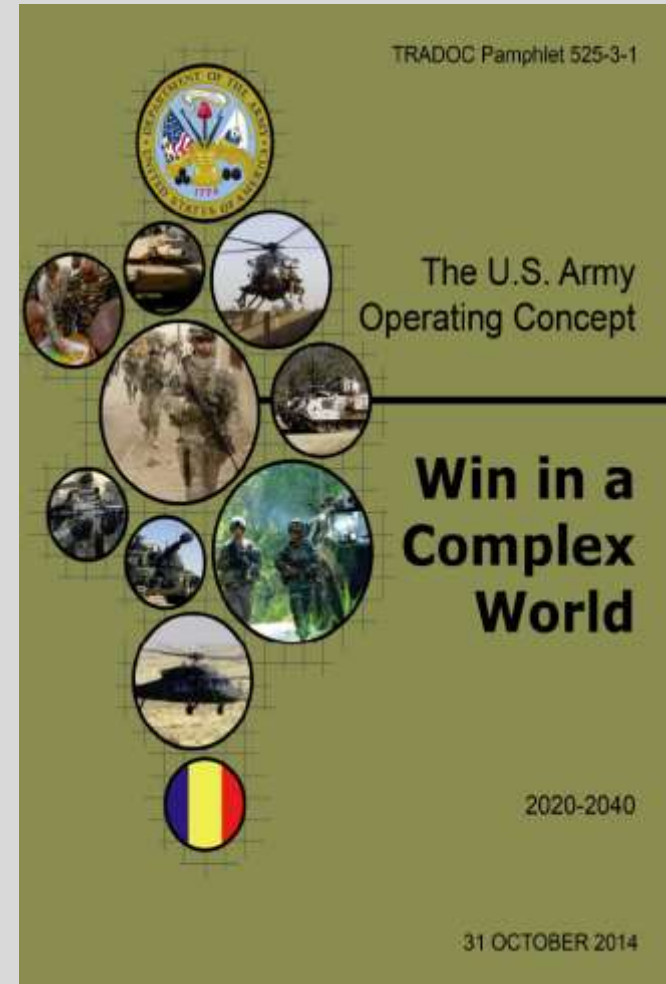




The Army Operating Concept



- New Army Operating Concept (AOC) demonstrates how the Army intends to adapt to meet the challenges to “*Win in a Complex World*”
- Developed by the U.S. Army Training and Doctrine Command (TRADOC Army Capabilities Center (ARCIC) and articulated in TRADOC Pamphlet 525-3-1
- New baseline for doctrine that the Army will use as its compass to build the new *Force 2025*
- Consistent with the evolving Capstone Concept for Joint Operations: *Joint Force 2020*
- Outlines how the Army will prepare and operate effectively, not just fight, under the full spectrum of missions and contingencies, as an integral part of a Joint, Inter-Organizational and Multi-National force from 2020 – 2040





Strategic and Operational Environment



- Concurrent mission to deploy expeditionary forces OCONUS, while protecting the U.S. Homeland
- Operate as a combined and integrated Joint, Inter-Governmental and Multi-National (JIM) team
- Possess integrated command and control from a local to a global scale
- Field operational capabilities rapidly to more effectively and efficiently counter myriad conventional and asymmetrical threats
- Optimally leverage our constrained forces by combining efforts and resources to accomplish multiple missions and tasks simultaneously
- Remain within established Force Generation (FORGEN), budget and other resource constraints



Win in a Complex World

Core Competencies

- Combined Arms Maneuver
- Wide Area Security
- Special Operations
- Shape the Security Environment
- Set the Theater
- Project National Power
- Cyber Operations

Tenets

- Initiative
- Innovation
- Simultaneity
- Depth
- Adaptability
- Endurance
- Mobility
- Lethality

Enable Joint Force Operations

Emphasizes the human, cultural, and political complexities of armed conflict; war remains a context of sides.

Considers all echelons of war; conflict cannot be divided into discrete levels.

Recognizes that American military power is joint power; emphasizes the Army's unique contributions across the range of military operations

Describes the Army's contributions to win: defending the nation, achieving sustainable outcomes consistent with U.S. vital interests

Emphasizes the criticality of land forces; to shape security environments, deter conflict and consolidate gains.

Recognizes decentralized operations in complex environments; requiring adaptive leaders, cohesive teams, and resilient Soldiers committed to the Army profession who thrive in chaos and uncertainty.

Emphasizes the integration of advanced technologies; with skilled Soldiers and well-trained teams maintaining differential advantages over enemies.

Enable Joint Force Operations

Victory Starts Here



NIE Lessons Learned



- Since the Spring of 2011, the Army Network Integration Evaluation (NIE) has been a cooperative effort between the Army's operational (FORSCOM) and institutional (ASA/ALT, TRADOC and ATEC) forces
- The NIE effort has effectively combined training, testing and experimentation to assess potential technologies that should be fielded to support a variety of missions across the operational spectrum
- Recent NIEs have effectively employed Joint and Multi-National forces, either on the ground, live or in a virtual or constructive architecture with resounding success
- As the NIE effort has evolved, the need has become apparent, to separate more mature programs of record from newly developing technologies with the former remaining under the NIE umbrella to provide more rigorous testing and the latter, fall under the Force 2025 Advanced Warfighting Assessment umbrella to provide for preliminary experimentation of cutting edge technologies
- Overall, these efforts have shown progress, particularly in the area of military and industry collaboration, and the Army leadership has continued to support them for the foreseeable future





NIE / AWA: Concept to Capability

The diagram illustrates a timeline from 2011 to 2025, detailing the progression from concept to capability. Key milestones include:

- 2011-2014:** NIE Year Objectives (Integrated network across Army Components (AC1, AC2, AC3), AWC, ATEC, ASA).
- 2015-2017:** Army Assessment Assessments (AAAs) - Initial Concepts, Initial Design, Initial Capability.
- 2018-2020:** Capabilities Integration Evaluation (CIE) - Initial Concepts, Initial Design, Initial Capability.
- 2021-2025:** AOC Objectives - Assess the Army and identify any capability gaps; Integrate the efforted capabilities to meet the intent; Provide the necessary resources and support; Assess the Army's readiness to meet the intent; Provide the necessary resources and support.

At the bottom, it states: "Establish Fort Bliss White Sands Missile Range as the focal point for Army modernization and Joint & Multi-national interoperability."



Current Challenges



- Participation of Joint and Multi-National forces has been constrained because external elements consider participation unfunded requirements, and there is no integration of Inter-Organizational elements for Homeland operations
- Shortages have forced the Army to place the dedicated test brigade, back into the Army Force Generation (ARFORGEN) cycle for OCONUS deployment
- Lack of a dedicated White Cell, Opposing Force (OPFOR) evaluators and data collectors, makes the NIE dependent on external taskings, not always resourced
- Embedded testing and training capabilities, like instrumentation data collection and testing agencies, would benefit from integration, to support experimentation
- While the host installation possesses four separate simulation centers, the lack of technical integration between these simulation centers is less than optimal
- Diversity, lack of availability and interoperability of simulation programs results in lack of standardization of simulation architecture between rotations



Potential Solution



- Establish Joint, Inter-Governmental and Multi-National Training and Testing Centers (JIMTTC)
- JIIMMTCs would integrate and leverage the unique Joint, Inter-Agency and Multi-National (JIM) capabilities of surrounding military installations and civilian organizations, in their regions to support JIM training, testing and experimentation
- These capabilities would include maneuver areas, ranges, airspace, forces, training & testing instrumentation, simulation capabilities and logistical capabilities, to include National Guard and Reserve Component assets and Inter-Agency and Inter-Governmental capabilities and infrastructure
- The concept could support initiatives like the NIE and Force 2025 AWA effort, and myriad other events, like the Chief of Army's Mega-City initiative, the Joint Staff's Bold Quest Inter-Operability exercise, OSD's Joint Operational Access Concept (JOAC) validation and the DHS / FEMA National Exercise Program





Other Potential Missions that Could Be Incorporated Into Concept



- Combined DOD and DHS Center for Training, Testing and Experimentation
- Venue for Joint Task Force (JTF) Training and Deployment Validation
- Augmentation for Existing Land and Air Warfare Combat Training Centers (CTC)
- Combat Training Center (CTC) and Deployment Validation Site for Army and Air National Guard and Reserve Forces
- Joint and Inter-Agency Center for Unmanned Aerial Systems (UAS) Training, Testing and Experimentation
- Joint, Inter-Agency, Inter-Organizational and Multi-National (JIM) Center of Excellence for Homeland Defense and Homeland Security Operations
- Border Security Training and Experimentation Center





Potential Enhancements to Support All Mission Sets



- Operations Group to provide integrated mission command and oversight
- Permanent White Cell to provide multi-layered operational command structure
- Permanent Opposing Forces (OPFOR) element
- Integrated Air Picture and Airspace Control
- Integrated internal and external Simulation Architecture and interoperable Simulations Federation, using OSD's Test and Training Enabling Architecture (TENA) and the Joint Mission Environment Test Capability (JMETC) as the Integrating Platforms
- Linkages to Global Simulation Hubs, the Air Force Distributed Mission Operations Center (DMOC) to export events to globally
- In-Place equipment and logistical base set for use by rotational maneuver units





Technology Enablers



- OSD Training and Testing Enabling Architecture (TENA) to integrate disparate simulation networks like the Joint Mission Environment Test Capability (JMETC) and Joint Training & Experimentation Network (JTEN)
- OSD Joint Mission Environment Test Capability (JMETC) to provide interoperability between different simulation programs and connectivity between testing and training integration hubs
- Linkages to JIM network hubs, like the U.S. Air Force Distributed Mission Center (DMOC) to export training, testing and experimentation events globally
- Integration of training and testing instrumentation
- Next Generation Visualization Cluster capabilities to provide secure access to critical data and analysis without storing information on edge devices
- Advanced technologies in storage and data capture with solid-state and Non-Volatile Memory express (NVMe) devices, that can store and process petabytes of information in real – time to provide rapid data capture and access to information



Mission Enablers



- Operations Group largely staffed by a combination of National Guard personnel with operational expertise and matrixed support government civilians with technical expertise; contractor support only for very unique capabilities
- Test Force requirements provided by Army and Air National Guard operational units on a rotational basis
- OPFOR requirements provided by Army and Air National Guard units on a rotational basis
- White Cell requirements provided by military component of the Operations Group
- Evaluators and Data collectors provided by Army Multi-Component Training Support Brigades (TSB) and parallel JIM elements
- Logistics augmentation, as needed, provided by Army National Guard and Army Reserve forces on a rotational basis





Functions of Operations Group



- Facilitate Scheduling of the Maneuver Areas, Ranges and Airspace
- Assist in External Coordination and Liaison Functions Within and External to the JIMTTC
- Provide White Cell Support to Ongoing Operations
- Simulate a Higher Level Command (HICOM) Capability at Whatever Levels Are Required to Maintain Realism
- Monitor and Assist in the Coordination of Current Operations and in the Planning and Coordination of Future Operations
- Assisting in the Integration and Employment of Government Owned Off-the-Shelf (COTS) and Commercially Owned Off-the-Shelf (COTS) Enabling Technologies
- Assist in Facilitating Hot Washes and After Action Reviews as Needed
- Coordinate Other Support Functions as Required



JIMTTC Philosophy



- Operational Philosophy
 - Leverage the JIMTTC Operations Group to facilitate coordination between different organizations to see where multiple training, testing and experimentation requirements can be achieved through cooperation and coordination
 - Integrate training, testing and experimentation events where possible or practical; Synchronize training, testing and experimentation events where full integration is not possible or practical, and / or; De-Conflict training, testing and experimentation events, by space or time when integration is not possible or practical
- Resourcing
 - Optimize available resources by leveraging each others capabilities to meet multiple objectives during the same training, testing, experimentation, or hybrid event
 - Employ the Army and Air National Guard, the Army Reserve and Reserve Component and JIM organizations to mitigate Active Component (AC) force structure requirements, leverage their outstanding expertise and experience, enhance their mission readiness and save money



Projected Benefits



- Promotes Joint, Inter-Governmental and Multi-National (JIM) Integration
- Enables the synchronization of multiple major training, testing and evaluation events, while maximizing the value of each event, by allowing multiple participants to attain their organizational objectives
- Provides a platform, with the embedded operational capabilities, to effectively and efficiently plan, coordinate, facilitate, execute and assess each event
- Optimizes the value of the National Guard, and other Reserve Components, to mitigate Active Component shortfalls while bolstering their own readiness
- Preserves resources by leveraging existing resources to support expeditionary and homeland missions, across the operational spectrum



Uses Operational and Technological Innovation to Promote Development Across DOTMLPF in a Constrained Environment



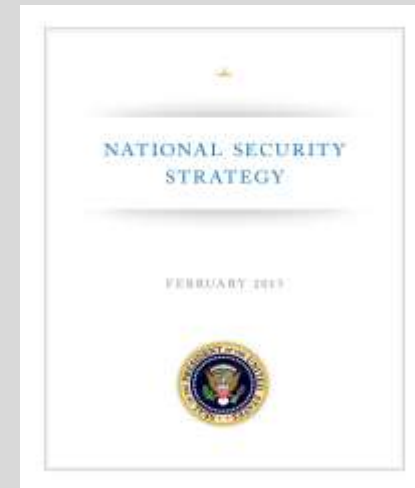
Backup Charts



National Security Strategy



- The U.S. National Security Strategy (NSS), is prepared by the White House, and articulates the emerging threats and challenges and how the Administration intends to provide security to the Nation, by leveraging the four pillars of national power to address them.
- The four pillars of national power are:
 - Political Power
 - Military Power
 - Economic Power
 - Socio – Cultural Power
- The latest version of the U.S. National Security Strategy was signed by President Obama and published in February 2015
- It will be interesting how the Trump Administration and Congress will shape the emerging National Security Strategy, not only in terms of strategic priorities, but also in terms of resourcing

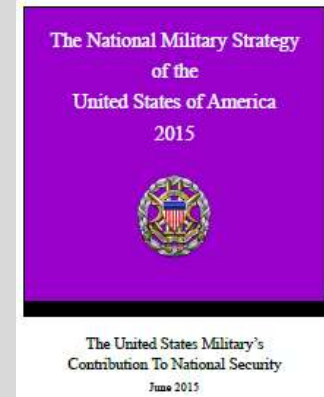




National Military Strategy



- The U.S National Military Strategy (NMS), and is based on the National Security Strategy (NSS) of the United States
- It is prepared by the Chairman of the Joint Chiefs of Staff, as a deliverable to the Secretary of Defense and the President
- The National Military Strategy (NMS) articulates how the Armed Forces of the United States will be employed to carry out the National Security Strategy and:
 - Discusses the Strategic Environment
 - Describes the Military Environment
 - Proposes and Integrated Military Strategy
 - Expounds on Joint Force Initiatives
- The latest version of the NMS was signed and published in June 2015





Leveraging the Capabilities of All Organizational Elements

