



2006

United States Army Space Master Plan

The Army Space Master Plan (ASMP) assesses capabilities that will enhance space as a key enabler in support of combat operations for the Army and articulates the need for additional capabilities.

The ASMP:

- 1) Uses the 2005 Training and Doctrine Command's Capability Needs Analysis to derive space capabilities that bridge identified gaps.
- 2) Identifies space-based capability gaps and provides potential DOTMLPF solutions for those gaps.
- 3) Identifies capability shortfall areas the technical community could use to develop potential Army technology objectives.
- 4) Provides a basis for developing official Army positions on space issues and helps synchronize Army efforts to leverage space capabilities to support Ground Maneuver Force operations.
- 5) Supports space-related input to Program Objective Memorandum decisions, The Army Plan, DOTMLPF development activities, the Army Campaign Plan, and the next Capability Needs Analysis.

Key Army Positions

Joint Command and Control

- TSAT and AEHF are critical capabilities; stay on schedule and meet performance levels
- MUOS and WGS must stay on schedule and meet performance levels
- JBFSA and Combat ID need to migrate to protected SATCOM

Battlespace Awareness

- Satellite providers for DoD operations need on-board standards for detecting and responding to attack
- Continue to influence IC and DoD for tactically responsive sensors
- Space Radar must have dynamic retasking and theater, enroute and BLOS downlink capabilities without going back to CONUS
- Advocate better local weather support and timely, high-fidelity wx data
- Support GIG and Intel Enterprise capabilities that include theater/direct downlinks
- Need "quick time to first fix" for GPS III and M-code upgrade chips
- Assess utility of space sensor direct-to-shooter capabilities

- Joint Space Control should include an offensive focus, to create tactical effects
- Determine the need for Joint development of a tactical single integrated space picture capability

Focused Logistics

- Issues covered under other JFCs

Protection

- There can be no compromise on the need for a direct downlink capability from SBIRS to the theater
- Army combat developers must ensure that STRATCOM Space Control JCD FSA addresses Space Control capability gaps

Integration

- Joint space doctrine needs to be updated and needs to provide depth and clarity for command and control of space forces
- Space impacts on ground operations must be integrated across Joint virtual and live training complex
- JBFSA ACTD capabilities should be integrated into Joint Command and Control systems

Future Scenario

In a future small, regional conflict (2020), a threat force launches a theater ballistic missile at US/coalition forces using a Transporter Erector Launch vehicle (TEL). The Space-Based IntraRed Sensor (SBIRS) System detects the launch and tracks the missile through burn-out, providing data to the Joint Tactical Ground Station/Multi-Mission Mobile Processor (JTAGS/M3P). The JTAGS/M3P predicts the trajectory path from SBIRS data and passes that information to missile defense interceptors; it also provides missile warning messages to other appropriate theater network based on impact point predictions. SBIRS also provides a machine-to-machine cue, with the estimated launch point, to the Space Radar system. The Space Radar (SR) platform uses a real-time prioritizing algorithm (based on *a priori* rule sets) to re-stack its collection order and repositions its antenna to provide radar moving target indicator coverage of the estimated launch point. The SR tracks the TEL when it begins to move to its hide site, and passes the track information through the Distributed Common Ground System to either the Joint Operations Center or the Joint Air Defense Operation Center for assigning a weapons platform to the TEL. Space Radar continues to provide track information to the assigned weapons platform while it is enroute, enabling the weapons platform to quickly locate and kill the target.

This scenario illustrates how space assets can be used to detect, track and assess ground threats/events and how that information can be used to support ground operations as described in the Joint Functional Concepts (Battlespace Awareness, C2, Force Application, and Protection). Space sensors, satellite communications and a

position, velocity, navigation and timing system would each play a part in achieving the desired effects in this mission scenario.

Army Space Cadre complements traditional functional area experts in bringing space support to the Joint Functional Areas. This collective effort will enable scenarios like this to become reality in the future.

Army Issues for Resolution

ISSUE - MILSATCOM: The Army must seek innovative solutions, to include partnering with commercial providers, to overcome MILSATCOM shortfalls in capacity, user access and delays in capability improvements.

ISSUE – Where should the Army invest in near-space and high-altitude, long-endurance platforms as a lower cost, more responsive alternative to space platforms if they prove technologically feasible?

ISSUE: Establish DOTMLPF development proponents (where they do not currently exist), and assign responsibilities for potential Army involvement in tactical satellite and near-space and high-altitude, long-endurance capabilities and operations.

ISSUE: Asses the utility in pursuing a more efficient commercial imagery policy and process in order to better support time-sensitive tactical use.

ISSUE: Plan for the prioritized migration from using commercial SATCOM to using MILSATCOM as the primary means of transmitting mission-critical data.

ISSUE: Army-operated elements of the Ballistic Missile Defense System (BMDS) must be supported in accordance with the BMDS Transition and Transfer Plan to defeat space-transiting ballistic missiles launched against the US homeland, allies, deployed forces and other national interests, and the BMDS plan to provide enhanced missile detection and assured warning for the US homeland and regional combatant commanders.

ISSUE: Assess the utility of using directed energy as a weapons system within the Future Force. Consider mission areas, applications and constraints as part of the assessment.

Top Army Priorities for Space

Enhanced Satellite Communications
Early Missile Warning
Assured Access & Asset Protection
Persistent Surveillance
Position, Navigation, Timing

Weather, Terrain & Environmental Monitoring

ACRONYM LIST

ACTD	Advanced Concept Technology Demo
AEHF	Advanced Extremely High Frequency
BLOS	Beyond Line of Sight
C2	Command and Control
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities
FSA	Functional Solution Analysis
GIG	Global Information Grid
IC	[National] Intelligence Community
JBFSFA	Joint Blue Force Situation Awareness
JCD	Joint Capability Document
JFC	Joint Functional Concept
MILSATCOM	Military Satellite Communications
MUOS	Mobile User Objective System
SATCOM	Satellite Communications
SBIRS	Space-Based InfraRed Satellite
STRATCOM	U.S. Strategic Command
TSAT	Transformational Satellite [System]
WGS	Wide-band Gapfiller Satellite [System]



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