PSA
Precision Strike
Technology Symposium

LtGen Duane Thiessen
Deputy Commandant
Programs and Resources
“The defining principle of the Pentagon’s new National Defense Strategy is balance. The United States cannot expect to eliminate national security risks through higher defense budgets, to do everything and buy everything. The Department of Defense must set priorities and consider inescapable tradeoffs and opportunity costs.”

Robert M. Gates, SecDef

Foreign Affairs, Jan/Feb 09
CMC Priorities

✧ Achieve victory in the “Long War”
✧ Right-size the Marine Corps
✧ Resetting for today while modernizing for tomorrow
✧ Improve quality of life for Marines and families
Strategy Objectives for 2025

- Focus on the Individual Marine
- Improve Training and Education for Fog, Friction, and Uncertainty
- Expand Persistent Forward Presence and Engagement
- Posture for Hybrid Threats in Complex Environments
- Reinforce Naval Relationships

- Ensure Amphibious Force Levels Meet Strategic Requirements
- Create Joint Seabasing Capabilities
- Lead Joint/ Multinational Operations & Enable Interagency Activities
- Maintain a Ready & Sustainable Reserve
- Build/Deploy Multicapable MAGTFs

A national imperative - Strengthening the MAGTF for employment across the ROMO
Sources of Stress, Instability, & Conflict

Ungoverned Spaces
- Guatemala-Chiapas Border
- Colombia-Venezuela Border
- West Africa
- East Africa
- Arabian Peninsula
- North Caucasus Region
- Afghan-Pakistan Border
- Sulawesi-Mindanao
Adapting to Current and Future Battlefields

HYBRID THREATS
“militias, insurgent groups, other nonstate actors, and developing world militaries are increasingly acquiring more technology, lethality, and sophistication… Sec Gates

- Networked Terrorists, Criminals, & Insurgents
- Emerging Global Powers
- Increasing Interdependence
- “Haves” vs “Have Nots”
- Anti-West attitudes
- Identity/Faith-based movements

Complex Terrain

Wars Amongst the People

Access challenges… Largely in the Littorals

Hybrid Threat Capabilities

- Terrorism/Crime
- Significant Drug Regions
- Ungoverned Spaces
- Nuclear Armed States
- Anti-access Weapons

Information Environment
**Precision Strike:**
Improving the Kill Chain

**Key enablers:**
- Command, Control, & Communication
- Situational Awareness
- Precision Targeting
- Standoff
- Response Time
- Precision Lethality

**Precision: A Warhead on a Forehead**
JMEMs

✦ Introduced 1967

• Slide rule and stubby pencil
• Many voluminous books of data
• Manual methodologies
  ▪ Single guided weapon: 20 minutes
  ▪ Stick of unguided weapons: 1.5 hours
  ▪ Stick of cluster weapons: 3.0 – 5.0 hours
• No ability to perform weaponeering against complex targets
Today’s model for precision strike

- Real-time Targeting
- Target Discrimination
- Moving Targets
- Intelligent Response
- Accuracy: ±1 inch
Improving the kill chain: Finding the target

✧ We can’t hit what we can’t find
  • 24/7 ISR is a must

✧ Many tools available for ISR
  • UAS
  • Fixed sensors
  • Satellite

✧ Communication is vital
  • Rapid/accurate dissemination
  • Common network
Improving the kill chain: Fix/Track the target

Requirement:

✦ Coordinate locking
  • GPS location within 1m
✦ Auto Target Hand-off System
✦ Prolific ISR assets
  • Satellite / fixed sensors
  • TF ODIN / C-12
  • UAS
  • Observer on the ground
Improving the kill chain: Targeting

- Integration with Sensors
- More sensors lead to more data
- Each sensor produces multiple acquisitions
- Sensor Fusion/Correlation is required
  - Prevent stovepiping ISR by domain or platform ownership.
  - Automate the Target Processing Center
  - Reduce False Alarms through correlation/Fusion
Improving the kill chain: Engage the target

✧ Response time reduction
  • Accomplish within minutes
  • Vital for unplanned Troops In Contact missions
  • Targets of opportunity

✧ Need to continue movement into digital age
  • Strikes still called over voice nets using “nonintegrated” GPS, LRF, map and compass
  • Different delivery platforms require coordinates in different formats
Improving the kill chain: Engage the target

✦ Close-medium range
  • Hellfire / Rockets / Mortars / Sniper
  • Artillery

✦ Longer range
  • JSOW / JDAM / AARGM / JASSM

✦ Scalable effects


Engagement Considerations

- **Less expensive**
  - Less accurate
  - Area coverage required
  - Precision not required
  - Larger TLE tolerance
  - CD not an issue
  - Ammunition resupply is not an issue
  - 260m CEP (max range)

- **More accurate**
  - Efficient area fires required
  - Near precision creates efficiency
  - TLE between 30m and 120m
  - CD is a consideration
  - Reduced resupply burden
  - 50m CEP

- **Most accurate**
  - Point target attack
  - Precision required (<10m CEP)
  - TLE ≤ 25m
  - Minimize CD
  - Lowest resupply burden
  - 10m CEP

**Scaleable precision provides more effective and efficient fires**
What Level of Precision is Needed?

Area Munition
- 120m Radius Circle

Open Area

Cultural Area

Densely-Packed Urban
- 10m Radius Circle

Precision Guided Munition

Sparsely-Packed Urban
- 50m Radius Circle

Munition Area

Precision Munition

Improving the kill chain: Assess the damage

Information and communication are vital
- Eyes/sensors on target for BDA
- Data relayed instantly to analyst for assessment
- Re-attack or start cycle over
- Common data-base for timely/accurate assessments
Near future for the long term

✦ Information Systems improvements
  • Networks
  • Digital communications
  • Web-based data

✦ Improvements to UAS
  • Lower profile ISR
  • Improved propulsion systems
  • Improved computer processing

✦ Better munitions
JSF - Single multi-mission adaptable platform

Multi-capable for the MAGTF
Questions?