NDIA

Innovation Panel

Supply Chain Transformation

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Dr. Vic Ramdass
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Introductions

- Randy Strang  VP, Customer Solutions, UPS
- Early Wyatt  Deputy Asst Sec Def, Rapid Fielding
- Mike Burkett  VP, Gartner Research

Highlight transforming possibilities in Supply Chain Innovation
Agenda

- The Future Environment
- Implications for Military Logistics
- The Supply Chain for the Future Force
- Supply Chain Enablers
- Operational Energy

“We are always looking for ways to keep our supply chain lean, cost effective, and flexible.” – Hon. Alan Estevez, Assistant Secretary of Defense (Logistics & Materiel Readiness)
The Future Environment

“Nothing endures but change.” - Heraclitus

- Increasing rates of technological and scientific advancement
- Increased competition for finite resources
- Persistent regional conflict
- Demographic strains
- Empowered non-state actors
- Continued proliferation of weapons of mass destruction
- Hybrid threats incorporating regular and irregular warfare, terrorism and criminality

Increasingly complex – absolutely dynamic

Focusing our approach to innovation
Implications for Military Logistics

- New strategic challenges
  - Diverse, unstable environments
  - Prolific, massively disruptive threats (NBC, cyber)
  - Uncertain resource availability

- Advanced technological capabilities
  - Decision support
  - Unmanned systems
  - Power and energy

- Changing human dimensions
  - Demographic shifts
  - Ingrained technology competencies
  - New learning, training methods

“We need innovation in how we operate – our ability to re-imagine the way we fight will determine if we succeed or fail.” – CJCS Strategic Direction to the Joint Force
The Supply Chain for the Future Force

“Notice that the stiffest tree is most easily cracked, while the bamboo or willow survives by bending with the wind.” – Bruce Lee

- The future supply chain optimizes technology and human resources to remain:
  - **Versatile**
    - Tailored to meet the operational situation
  - **Agile**
    - Uses diverse solutions to adapt to disruptive events and threats
  - **Efficient**
    - Minimizes force resource demands

“Our aim should be a versatile, responsive, and decisive Joint Force that is also affordable.” – CJCS Strategic Direction to the Joint Force
Supply Chain Enablers

**Connectivity**
- Mesh Networking
- Common Logistics Operating Environment (CLOE)
- Soldier Interfaces

**Distribution/Delivery**
- Unmanned Systems
- Alternative Energy
- Water Purification

**Demand Reduction**
- Advanced Computing/AI
- Embedded Sensors
- Decision Support

**Other Technologies**
- NIPNet
- AIS
- "Edge" Mesh Network
- Integrating NGWC chipset with generator sensors automates transports of command, control, and communications.

**Decision Support**
- GIG
- CEM+ data warehouse / LiW
- LCOP/C2
- Log C2 Sys
- Log Transactions
- RAM/CM/Predictive Maintenance
- Battalion Log Hardware/Software
- RAM/CM/Predictive Maintenance
- GSCS-Army / Air
- Enterprise level
- BDE/BN level
- Platform level
Operational Energy

The energy required for training, moving, and sustaining military forces and weapons platforms for military operations

Energy is a key enabler to major capabilities

**Performance Goals**
- Increase mobility
- Increase mission focus
- Extend endurance
- Increase availability
- Reduce fully-burdened cost
- Enhance stability operations

**Key Attributes**
- Lethal
- Agile
- Expeditionary
- Interoperable
- Versatile
- Sustainable

**Grand Challenges**
- Give soldiers and leaders capability to manage energy status, resources, performance
- Significantly reduce energy footprint
- Provide flexibility and resiliency by developing alternatives and adaptable capabilities

**Goal:** Energy-informed operations
Message to Partners in Industry & Academia

Help us:

- IDENTIFY emerging technology
- REDUCE size and weight of “Soldier Systems”
- CREATE transformative tools
- INTEGRATE critical capabilities to reduce complexity

Improve system efficiencies – reduce log requirements
Panel Discussion/Questions