



**TRADOC Capability Manager (TCM) – Soldier  
Information Brief for NetZero At the Tactical Edge  
Symposium  
13 February 2012**



# Agenda



- ❑ **What is a TRADOC Capabilities Manager?**
- ❑ **What is TCM Soldier?**
- ❑ **TCM Soldier Focus Areas**
- ❑ **Problem**
- ❑ **Solving the Power Problem**
- ❑ **Soldier and Small Unit Power**
- ❑ **Soldier Power Approach**
- ❑ **TCM Soldier Contacts**
- ❑ **Questions**



# What is a TRADOC Capabilities Manager (TCM)?



- TCMs provide intensive, centralized, total capability management, and integration of all doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) considerations for a particular capability area or function.
- **Two Broad Categories: Organizational Focus and System/Functional Focus**
- **Organizational Focus TCMs include:**
  - **Infantry BCT (IBCT), Stryker BCT (SBCT), Heavy BCT (HBCT)**
- **System / Functional Focus TCMS include:**
  - **Soldier, Sensors, Mission Command, Tactical Radios, Network and Services**

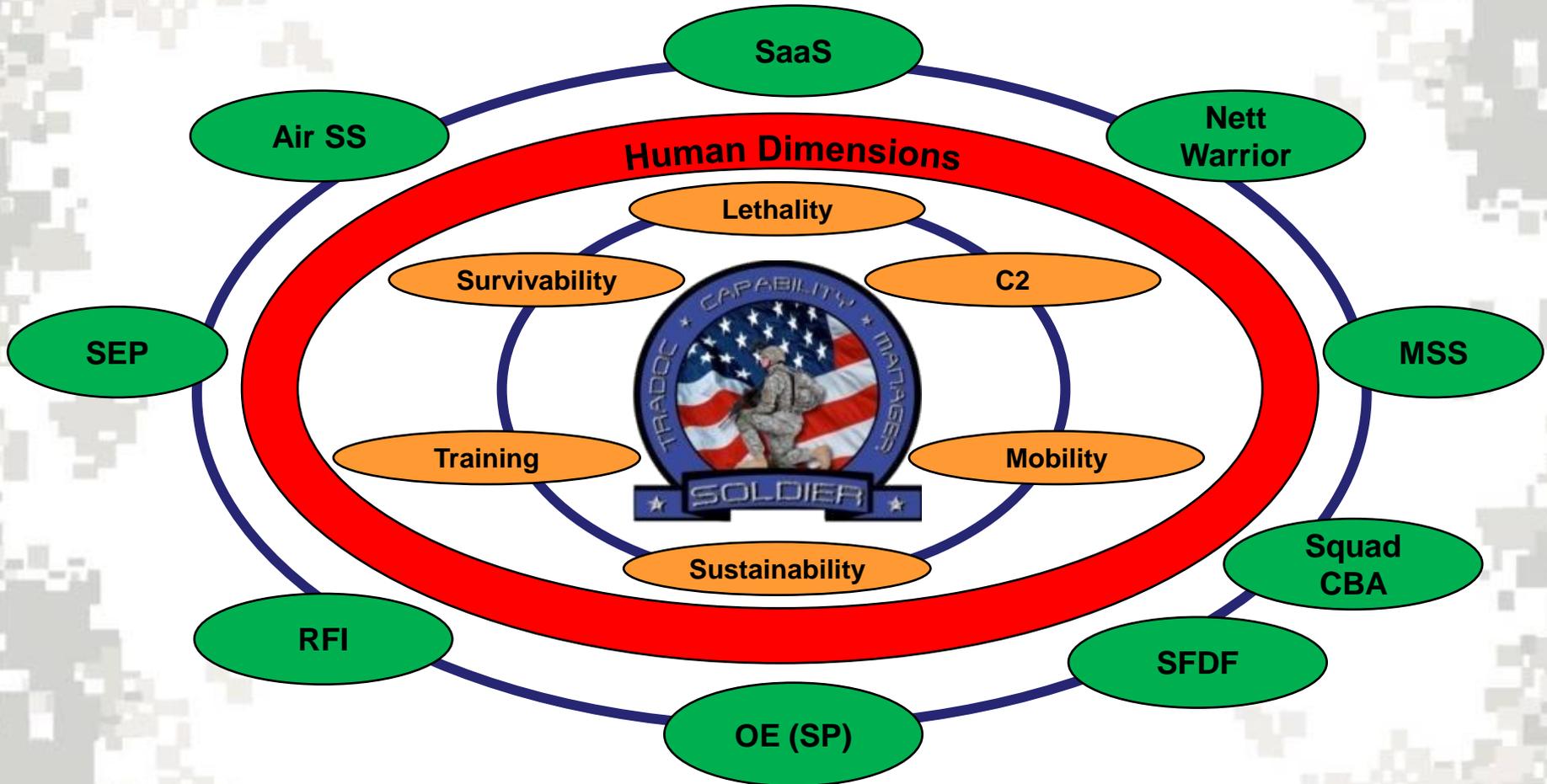


# What is TCM Soldier?

- **Functions as the conscience of the Army for all Soldiers**
- **Serves as the Army's capability manager and user representative for Soldier capabilities within tactical small units**
- **Integrates Soldier capabilities and assesses the impact on DOTMLPF**
- **Serves as the user advocate and counterpart to PEO – Soldier and coordinates with other TCMs, COEs, ARCIC, and HQ TRADOC**
- **Interact with operational and institutional units on important issues to solicit their input**



# TCM Soldier Focus Areas



RFI - Rapid Fielding Initiative  
SEP - Soldier Enhancement Program  
Air SS - Air Soldier System  
OE (SP) - Operational Energy (Soldier Power)

SaaS - Soldier as a System  
Nett Warrior (GSS) - Ground Soldier System (Nett Warrior)  
MSS - Mounted Soldier System  
Squad CBA - Tactical Small Unit Capabilities Based Assessment  
SFDF: Foundation of the Decisive Force



# Problem



***The sharp rise in Soldier worn capability has resulted in a dramatic increase in the numbers, and variety of batteries carried by the Soldier. This trend is unsustainable from a Soldier load and logistical perspective.***

## **Symptoms:**

- Trade-offs for power in way of mobility, lethality, and agility
- Decreased Unit/Soldier range and endurance - limits mission duration & engagement time
- Increased fatigue (increased energy expenditure results in carrying more water and food)
- Overly frequent halts in operations to swap batteries
- Excessive sustainment footprint
- Cost:
  - Lives
  - Medical
  - Procurement (Military specific applications & cost for new battery R&D)
  - O&M (sole-source batteries)
  - Transportation (compounds with distance)

## **Causes:**

- ***Soldier Load (volume, weight and configuration which limit mobility)***
- Dramatic increase in power and energy for Soldier support equipment
- Battery proliferation (too many types, voltages, power)
- No effective means to generate power in an austere environment
- Lack of Soldier confidence in battery state of charge



# Solving the Power Problem



No Silver Bullet



Objective – Net Zero:  
Supply  $\geq$  Demand

Reduce Demand

Increase Supply

Individual Level - Lightens the Load (bulk, weight, battery exchange)  
Unit Level – Decreases Logistical Trail (fuel, manpower, convoys)



# Soldier and Small Unit Power



	Contributing Factors	Corrective Action	Benefit 1 <sup>st</sup> order	Benefit 2d order
<b>Soldier Load Contributors</b>	Water	Individual and Small Unit Water Purification	Trade Space for Additional food/water	
	Food	No direct fixes		
	Power / Batteries	Next generation family of batteries	Reduced Weight	
		Small unit power generation / recharging	Same or Increased Power	
		Reduced system power demand	Inherent Power Generation	
		Power integration	Agile, Flexible, Mobile, Self-Sustainable Small Unit	
		Power monitoring and management		
	Ammo	Lightweight Small Caliber Ammunition (20% reduction)	Trade Space for Additional Ammo or Equipment	
	Body Armor	Soldier Protection System (10-15% reduction)		
	Soldier Systems	Must be addressed system by		



# Soldier Power Approach



Policy

Regulation

Doctrine

TTPs

Culture Change

**DEPLOYED PROTOTYPES TO OEF**



1st Battalion, 16th Infantry

Education

Training

Non-Materiel

Generation

Individual

Solar Panels

**Integration and Evaluation**

Distribution

Storage



# Objective : Supply $\geq$ Demand



Objectives

- Address requirements for current deployments through REF, SEP, and CDRT
- Provide unit power generation capability
- Provide universal battery chargers forward in the battlespace
- Reduce Soldier load for extended duration missions
- Establish organizations to support long-term success
- Formalize strategy and plan in writing
- Technical and operational analysis of gaps
- Evaluate powered systems for modification candidates

- By 2015, reduce batteries within Infantry Co to 15 types
- Reduce battery weight by 25%
- Field squad power generation capability
- Reduce frequency of routine resupply to 48 hours

- By 2020, reduce batteries within Infantry Co to 12 types
- Reduce battery weight by 50%
- Field Soldier power generation capability (kinetic, mechanical, heat, etc...)

- Soldiers can produce power  $\geq$  power demand**
- By 2025, reduce batteries within Infantry Co to 4 types
- Reduce frequency of routine resupply to 72 hours
- Reduce battery weight by 75%
  
- By 2028, reduce batteries within Infantry Co to one integrated power source which powers/charges all soldier borne powered peripherals.

## Now (2012-13)

- Op Energy ICD
- Op Energy Campaign Plan
- Soldier and Small Unit Power Strategy
- CPD: Pwr Generation
- CPD: Battery Charging
- CPD: Integrated Soldier Power
- CDD: Soldier and Small Unit Power (Inc 1)
- CDD: Next Gen Family of Military Batteries

## Near (2014-18)

- Battery Standardization Strategy
- Updated "Preferred Battery List"
- CDD: Soldier and Small Unit Power (Inc 2)

## Mid (2019-23)

- CDD: Soldier and Small Unit Power (Inc 3)

## Far (2024-28)

- TBD

Documentation



# TCM Soldier Contacts



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# Questions?

