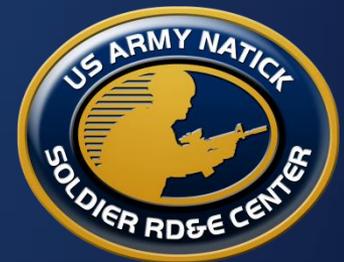


JOCOTAS Path Forward

Director, EBCP, NSRDEC
Executive Secretary
19 May 2015

“For the Army, we’re going to have to conduct what I call expeditionary maneuver. That’s rapidly deploying forces to unexpected locations to bypass anti-access. But that can’t just be a force that gets there. It has to be a force that has the mobility, protection and have lethality to operate.” Lt. Gen. H.R. McMaster Director, Army Capabilities Integration Center and Deputy Commanding General, Futures, U.S. Army Training and Doctrine Command



- How do we fit into the DoD Modernization Strategy? Base camp life support systems standardization will expand the scope of JOCOTAS.
- There are new recognized linkages between Contingency Basing and Soldier/Small Unit Readiness.
- We need to continue to show the benefits of our work to our respective organizations and DoD. What is the value added?
- Collaboration benefits all of us.

Operational Energy

- The Army spent \$3.6 Billion in FY 12, \$2.5 Billion on fuel in FY13, and \$2.3 Billion in FY 14.
- 70-80% of resupply weight in theater consists of fuel and water.
- 40% of fuel goes to produce electricity – we have the technology and know how to save between 30-60% of this amount
- **Results measured as increased capability, reduced vulnerability and dollars saved:**
 - Established a policy framework that is driving requirements integrated with training as well as doctrine development
 - Contingency Basing Infrastructure Efforts
 - OE Modeling and Simulation
 - Operation Dynamo 1&2 including deployment of “hybrid” energy systems with solar panels, battery storage, and power management systems
 - Deployed 36 mini-grids, saving 30 million gallons annually;
 - Accelerated fielding of new generator (AAMPS), more efficient and designed to be networked
 - Shower Water Reuse System reducing convoys
 - Driving behavior change across all levels of the Army
 - Coordination of Science and Technology investments

• **Operational Energy Security Investments are Expanding CHOICE**

OPERATIONAL ENERGY



operational energy performance drives operational effectiveness through mobility, agility, flexibility, resilience and sustainability.



It's not just about using operational energy less, but using it best. smart energy wins the fight.

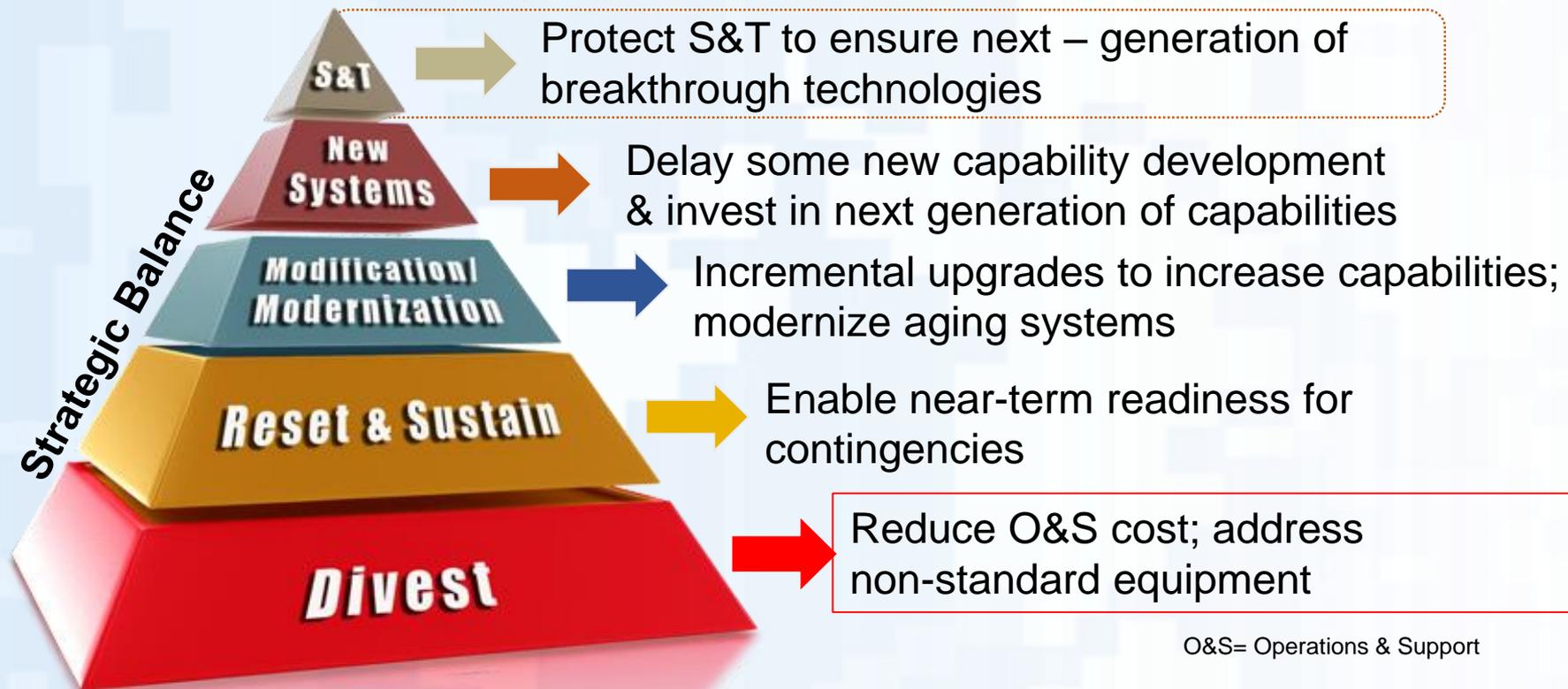


Mr. Kidd, Deputy Assistant Secretary of the Army (Energy and Sustainability),
Military Mobile Power Summit, January 2015

Modernization Strategy in a Fiscally Challenged Environment



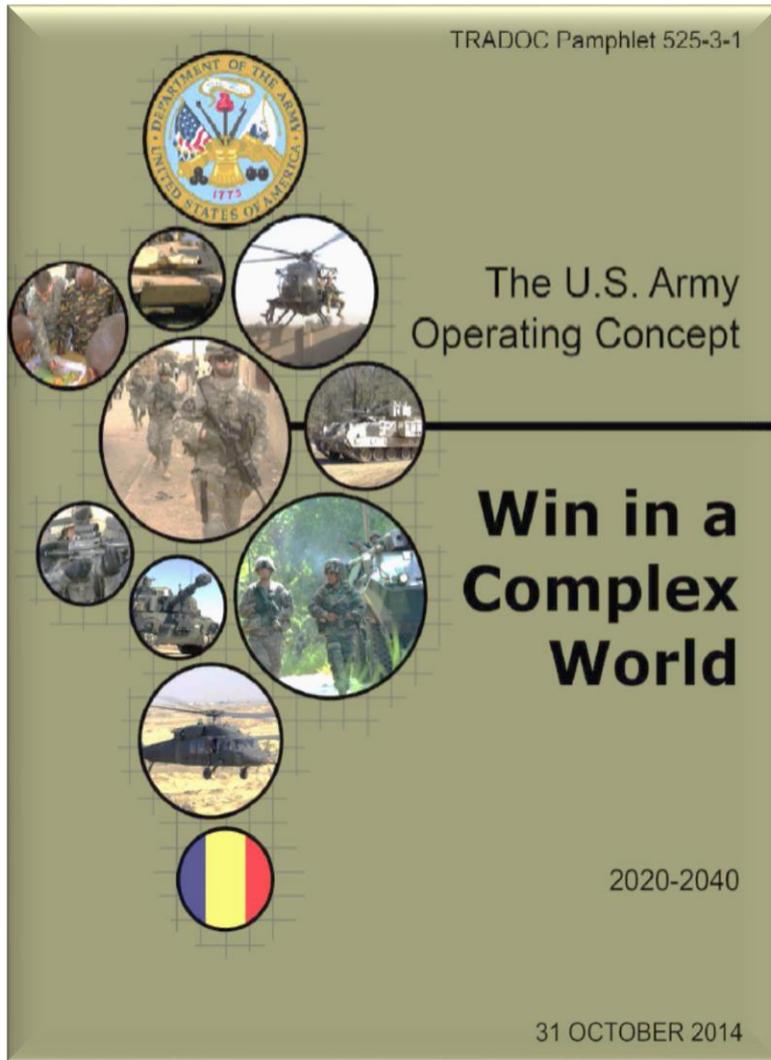
- Reduce procurement quantities to match force structure reductions
- Gained efficiencies
 - Leveraging multi-year procurement (Black Hawk, Chinook)
 - Incorporate Better Buying Power initiatives (contracting, should-cost, competition)



Jeffrey D. Singleton, (A) Executive Director for Technology

Office of the Deputy Assistant Secretary of the Army for Research and Technology, 16 March 2015





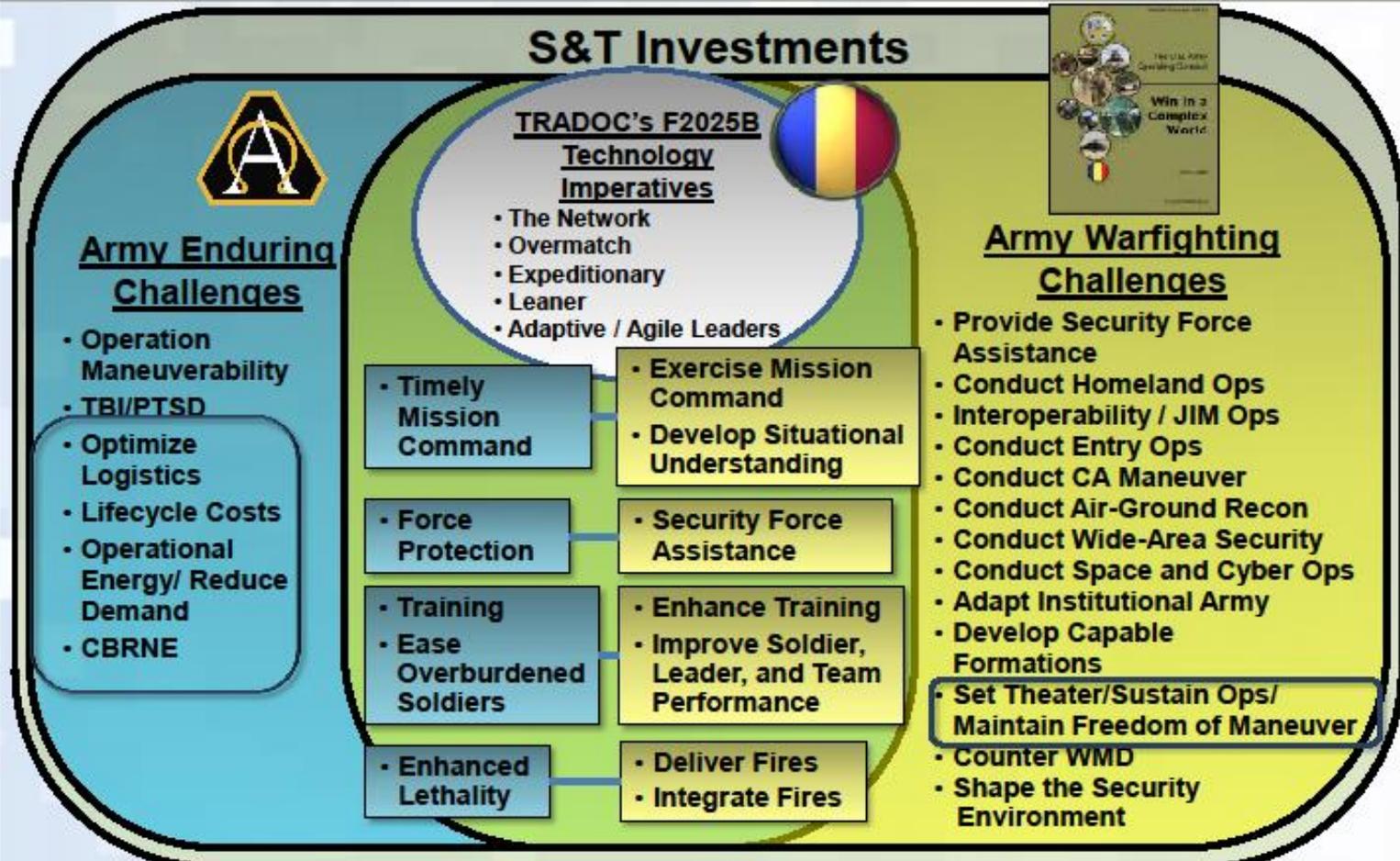
*“Force 2025 and Beyond the comprehensive effort for changing the Army and improving land power capabilities for the Joint Force. It **synchronizes processes and products from concepts to capabilities to implement change.** Force 2025 and Beyond efforts produce recommendations that help Army leaders direct modernization and force development.”*

Force 2025 and Beyond is the Army’s Innovation Effort

*“Innovation is the result of critical and creative thinking and the **conversion of new ideas into valued outcomes.** Innovation drives the development of new tools or methods that permit Army forces to anticipate future demands, stay ahead of determined enemies, and accomplish the mission.”*



S&T Aligned with F2025 & Leader Guidance



It's all about the Soldier – Basic Human Needs



Jeffrey D. Singleton, (A) Executive Director for Technology

Office of the Deputy Assistant Secretary of the Army for Research and Technology, 16 March 2015

It's all about the Soldier – Expeditionary Bases



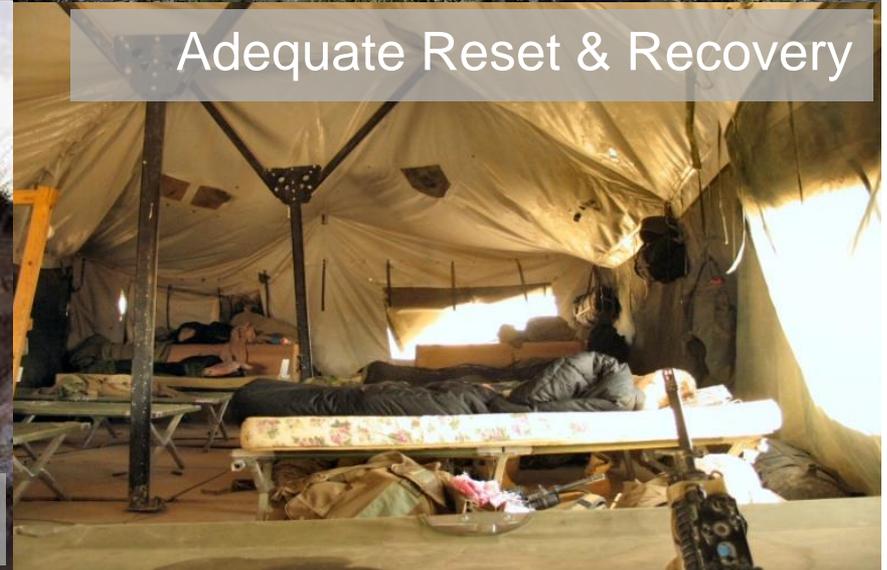
Easy Set Up



Operationally Effective



Performance Focused



Adequate Reset & Recovery

- All of the previous research efforts led to our definition of QoL:
 - How the camp conditions or assets available on the camp impact the Soldier's Readiness
 - Enabler to a Soldier's Readiness



POC: Justine Federici, NSRDEC, Justine.Federici.civ@mail.mil

- **Background**
 - Mission and conditions within a base camp drive Soldier Quality of Life (QoL)
 - QoL affects sleep quality, hygiene, morale, and other factors linked to Soldier readiness
 - The ability to predict QoL will help decision makers optimize QoL through new technologies and TTPs/SOPs
- **Challenges**
 - No common definition of QoL
 - Little existing research on QoL
 - No measures for quantifying QoL
 - No framework for predictive modeling of QoL
- **Scope of NSRDEC QoL Effort**
 - Developing ways to measure and model QoL based on priorities identified by Soldiers
 - Effort covers materiel and non-materiel attributes of expeditionary basecamps (1000 pax and below)



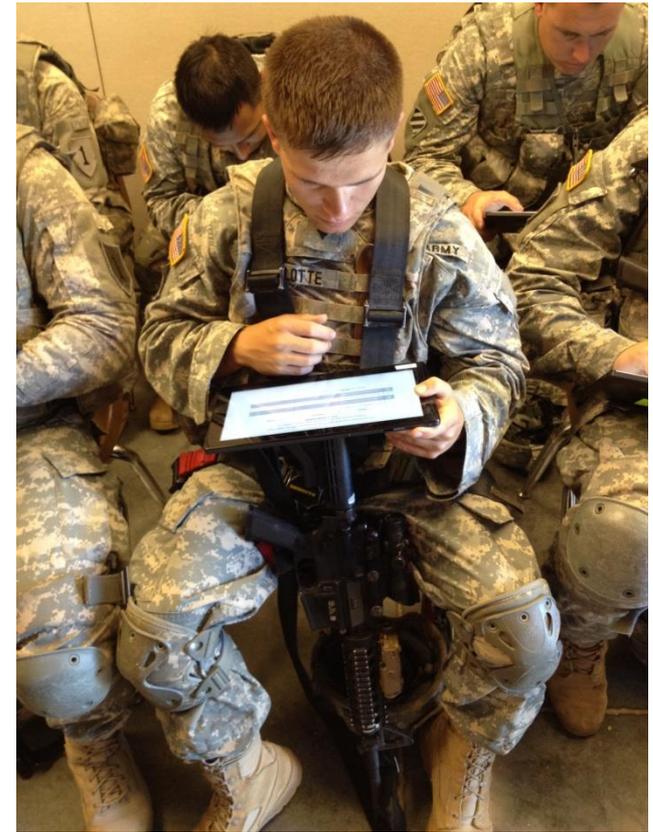
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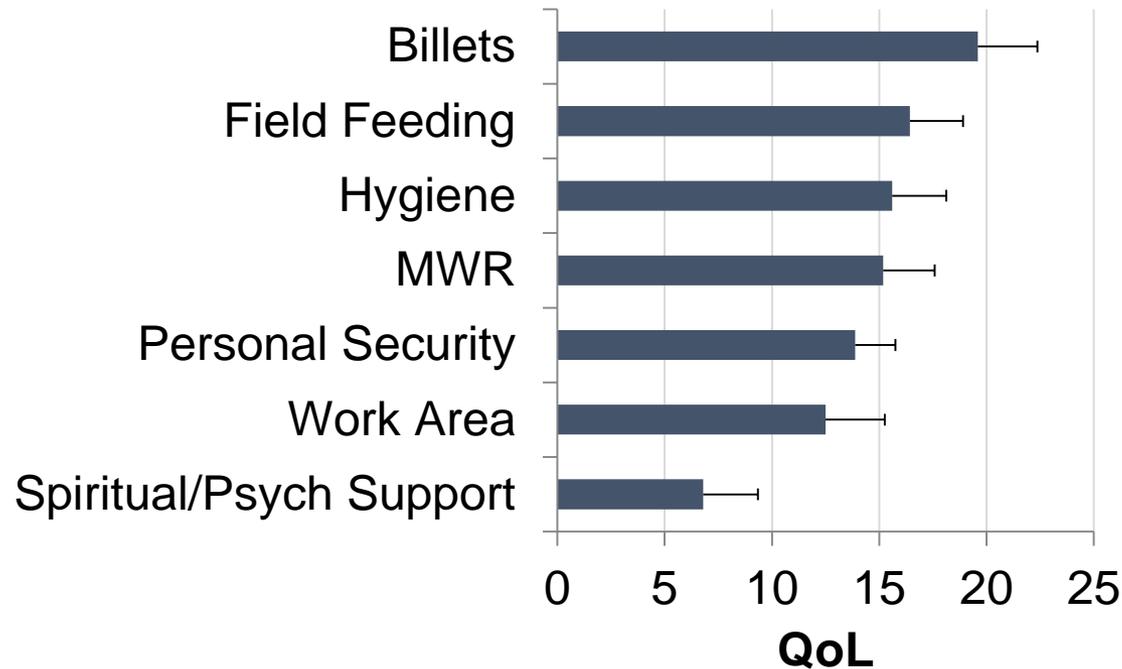
FOB Hammer

- Captures the “voice of the Soldier” by identifying how they prioritize QoL-related base camp services
- Enables leaders to make informed decisions about how to balance QoL with resource constraints
- Gives technology developers a way to estimate the effect of system design on Soldier QoL

- Data collected from over 1,200 Soldiers at 4 locations
 - Ft. Polk
 - Ft. Riley
 - Ft. Stewart
 - Joint Base Lewis McChord
 - Camp Edwards



QoL by Camp Function



- This chart shows average QoL scores for seven primary functional capabilities of basecamps.
- Each score is an average of the QoL scores for attributes within that category.

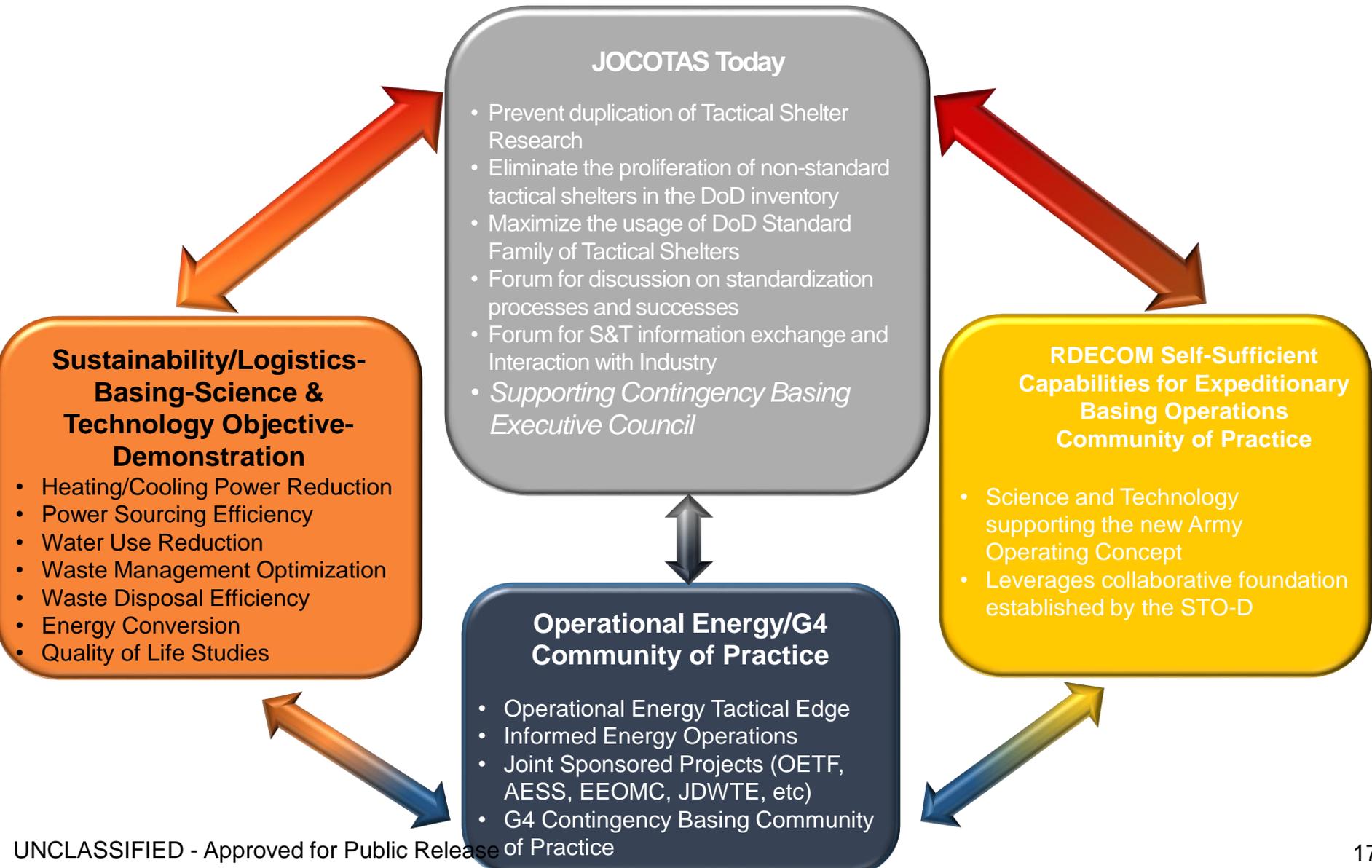
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Discuss QoI Standards

Designation		Combat Out Post (COP)	Patrol Base (PB)	Patrol Base (PB)				
Unit Size		≤ Platoon	≤ Company			Green	Amber	Red
Rotation		Rotational Basis	Rotational Basis (< days)					
Standard		TFIRON/WARRIOR	TF IRON/WARRIOR					
Food		MRE Rations and supplements	MRE Rations and supplements		Food	Cook on site / Facility (CK / MKT / Burner) / Adequate CL / Reefer Van	MRE Rations or Grill / Fruit / Pre Packaged Food Supplements	All MRE's / No cook / No Food supplements
Latrines		Burnout or Com Latrine / Piss (20:1)	Burnout or Com Latrine / Piss (20:1)		Shower &...	CSU / CU or Equip	Field expedient Shower //	No shower / burn latrines / piss tubes / Inadequate ratio
Showers		Baby wipes expedient shower if >48hrs	Baby wipes expedient shower if >48hrs		Communication	Internet / Phone	Limited access / amount	No internet or phone
Living Conditions	Facilities	- Iraqi Hardstand (Tents)	< 15 days: Iraqi Hardstand (Tents) > 15 days: Iraqi Hardstand (Tents)		MWR	Weights / cardio / TV / Games	Limited access / amount	None
	Space	≤ 72 hrs - 21 sq ft / SM >72 hrs - 42 sq ft / SM	< 15 days - 42 sq ft / SM > 15 days - Space SM)		Health	PA or MD / Adequate CL VIII	Medic / Shortages of CL VIII	CLS / No Class VIII
	Bedding	Cots / Homemade Bunks	Cots / Homemade Bunks		Other	No Issues	Minor issues (e.g., wiring, drainage problems)	Immediate concerns (e.g., Force Protection, No Power)

Example of Unit developed Standards for discussion

- Army Senior Leadership now recognizes importance of refitting and refueling our most important asset – the Warfighter.
- Contingency Base Camps are:
 - No longer just a place to sleep and move out
 - Becoming recognized as a force projection platform
 - Life support capabilities supporting QoL are the link between force projection and refitting and refueling the Warfighter.



JOCOTAS Today

- Prevent duplication of Tactical Shelter Research
- Eliminate the proliferation of non-standard tactical shelters in the DoD inventory
- Maximize the usage of DoD Standard Family of Tactical Shelters
- Forum for discussion on standardization processes and successes
- Forum for S&T information exchange and Interaction with Industry
- *Supporting Contingency Basing Executive Council*

Sustainability/Logistics-Basing-Science & Technology Objective-Demonstration

- Heating/Cooling Power Reduction
- Power Sourcing Efficiency
- Water Use Reduction
- Waste Management Optimization
- Waste Disposal Efficiency
- Energy Conversion
- Quality of Life Studies

Operational Energy/G4 Community of Practice

- Operational Energy Tactical Edge
- Informed Energy Operations
- Joint Sponsored Projects (OETF, AESS, EEOMC, JDWTE, etc)
- G4 Contingency Basing Community of Practice

RDECOM Self-Sufficient Capabilities for Expeditionary Basing Operations Community of Practice

- Science and Technology supporting the new Army Operating Concept
- Leverages collaborative foundation established by the STO-D

- How do we fit into the DoD Modernization Strategy? Standardization is seen as reducing Army support and Operations cost and reducing the demand for operational energy.
- As a force projection platform, Contingency Basing refuels the Warfighter. How can JOCOTAS support this force projection platform?
- Collaboration and Information Exchange adds to our Value.