

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 14 JAN 2011		2. REPORT TYPE Briefing Charts		3. DATES COVERED 10-09-2010 to 21-12-2010	
4. TITLE AND SUBTITLE What's on the Horizon Future Capabilities through the Logistics Lens				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Grace Bochenek				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army TARDEC, 6501 East Eleven Mile Rd, Warren, Mi, 48397-5000				8. PERFORMING ORGANIZATION REPORT NUMBER #21473	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army TARDEC, 6501 East Eleven Mile Rd, Warren, Mi, 48397-5000				10. SPONSOR/MONITOR'S ACRONYM(S) TARDEC	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S) #21473	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES For TACTICAL WHEELED VEHICLE CONFERENCE 2011					
14. ABSTRACT - Provide Life-Cycle engineering support and for all DOD ground combat and combat support vehicle systems. - Develop and integrate technology solutions to improve Current Force effectiveness and provide capabilities for the Future Force.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Public Release	18. NUMBER OF PAGES 12	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

- **Dr Grace Bochenek**

- Director for US ARMY Tank Automotive Research Development Engineering Center (TARDEC)

***The Technology – Logistics Paradigm:
Fixing Today's Problems, Preventing Tomorrow's***

- **COL Kirk Benson for Dr Wm. Forrest Crain**

- Deputy Director for the US Army Material Systems Analysis (AMSAA).

Data-Driven Analysis for Logistics

- **Dr Vic Ramdass**

- Director for the Logistics Innovation Agency (LIA)

***Addressing Logistics Up Front:
More Efficiently Develop, Buy, Own, and Operate the TWV Fleet***



- TARDEC Mission
- The Logistics-Technology Paradigm – Two Facets
- Reducing Current Logistics Burdens with Technology
- Reducing Unintended Consequences in Technology Development
- Closing

- Provide Life-Cycle engineering support and for all DOD ground combat and combat support vehicle systems.
- Develop and integrate technology solutions to improve Current Force effectiveness and provide capabilities for the Future Force.



Life-Cycle Engineering Requires Logistics to be Addressed from the Start – *Concept through Disposal*

The Two Facets of Future Capabilities through the Logistics Lens



Look at
**Innovative ways to
Reduce Logistics Burdens**

Unburden the
Warfighter

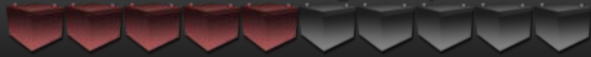
Look to
**Design Good Logistics In
From Start**

Reduce
Unintended
Consequences

**AGM Battery Failures
2002-2008**

~250,000

Incorrect Voltage Output



50%

Damaged - Transport Issues



30%

Improper Electrical Performance



20%

Approximately 80% of incorrect voltage failures were serviceable

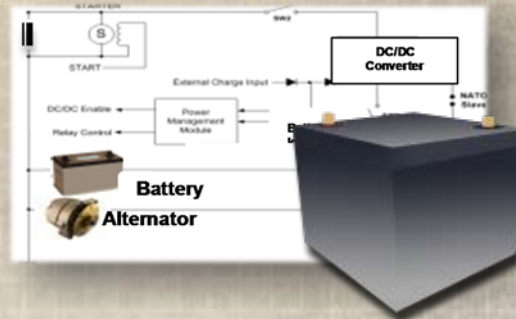
Improved charging techniques can lead to 2X life improvement



Field Battery Maintenance & Training



Improved Charging



Battery Management



- Annual Purchase of Vehicle Batteries: 700,000
- **AGM = Advanced Glass Mat.: "maintenance free"

2007 Kuwait / OIF / OEF Fuel to FOB (M Gal)

431

**IMPACTS
of Saving 1% Fuel**

\$5-82B

Fewer Dollars Spent on Fuel

6,444

Fewer Soldier Trips

37

Fewer Casualties

Number Convoys Resulting in 1 Casualty

24

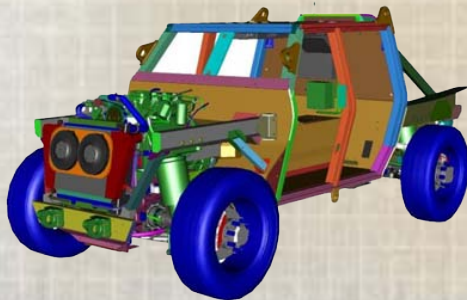
Number Convoys Per Day

2.5

Days Between Casualties

10

**Modeling and Simulation:
Optimize the System**



Research and Testing



**Demonstrate Systems
and Technologies**



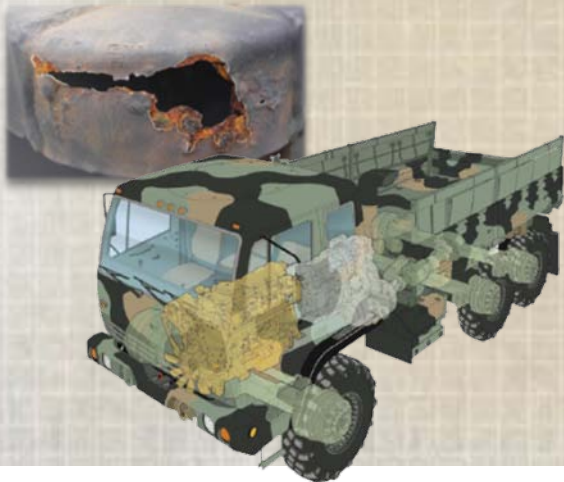
TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



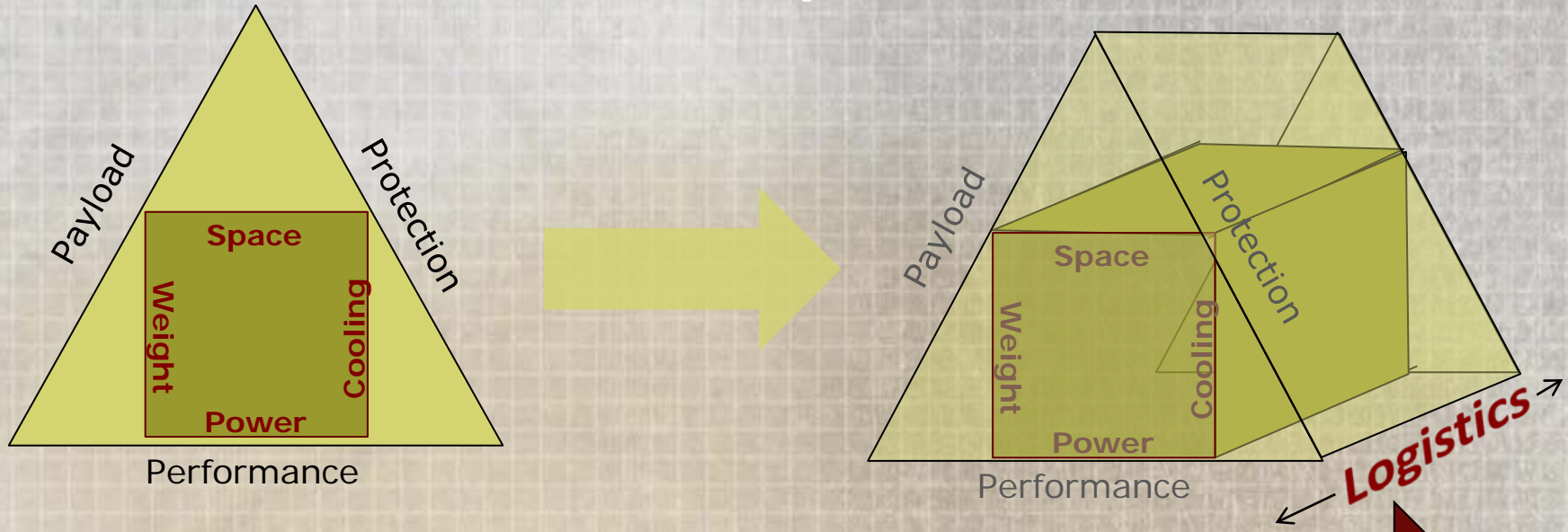
Condition Based Maintenance - Robust Solutions

Reduce Complexity / Improve Commonality

Develop Hardware to Improve Training and Avoid Issues



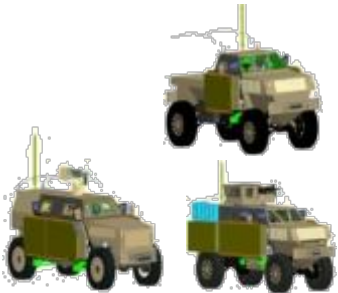
TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



Moving from SWaP-C to SWaP-C+L

LOGISTICS

Commonality



Durability



Transportability



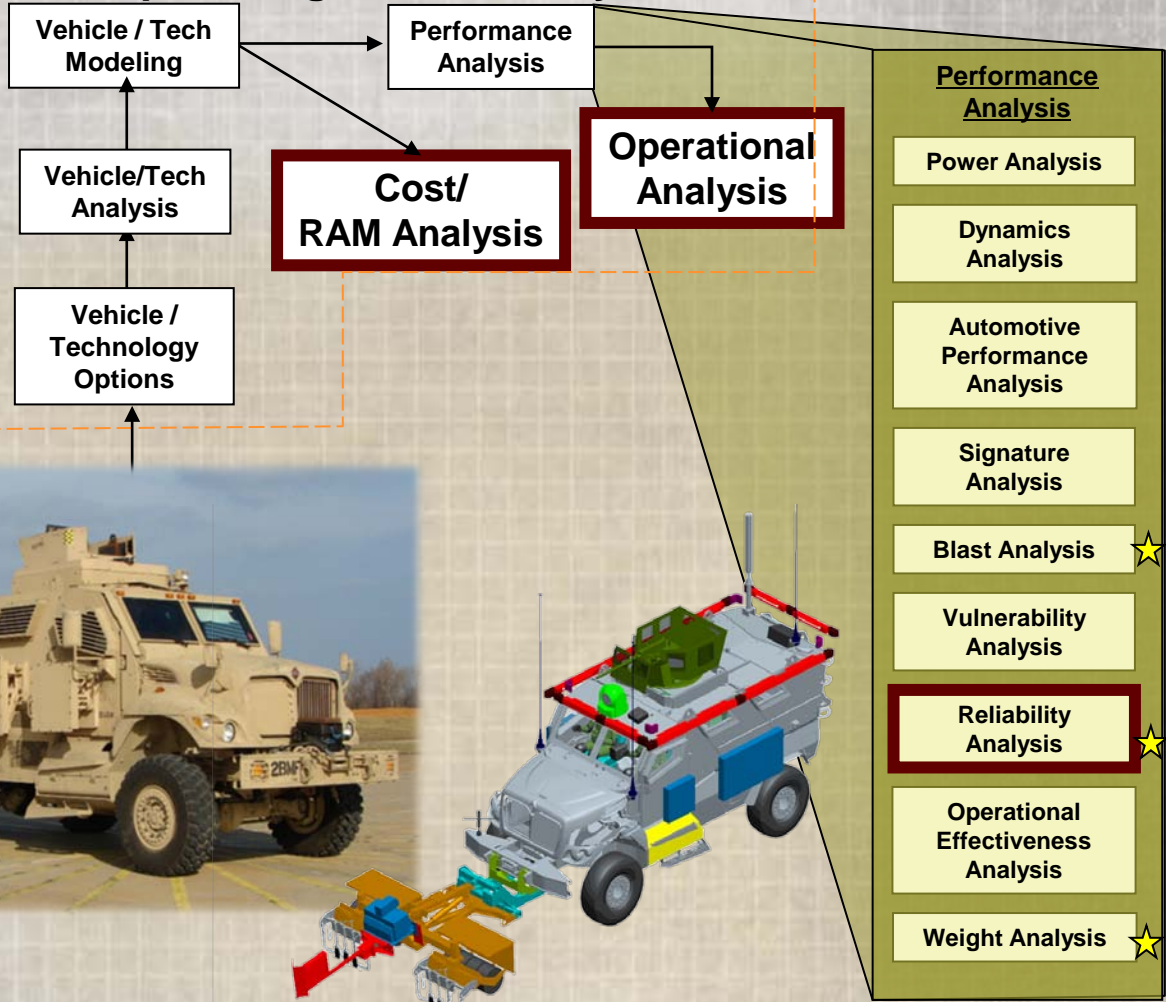
**Supportability/
Maintainability**



Producibility



Concepts, Integration & Analysis



- Reduce Time / Cost to Field
- Reduce Operations & Maintenance Costs (RAM)
- Improve Transportability
- Reduce Inventory
- Save Lives
- Reduce Injuries
- Reduce Failures
- Improve Fuel Economy
- Reduce Weight

Enforce Design Principles to TARGET Reliability
Good Systems Engineering

It's All About the Warfighter



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



This chart goes after the last speaker