Tactical Wheeled Vehicles

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United States Army

Deputy Chief of Staff , G-4

TRUCK HISTORY LESSON

- The first motor truck was built in 1896 by Gottlieb Daimler
- Pre-WWI the Army's opinion was that wheeled motor vehicles had their place but nothing could or would replace the horse
- 227,000 + trucks were produced by more than 290 manufacturers for the Army in WWI
- In 1924, horses outnumbered trucks in the US by more than 3 million
- Today there are over 240,00 trucks in service

> *" We must not be misled to our own detriment to assume that the untried machine can displace the proved and tried horse"*
>
> **Major General John K. Herr, 1938**

DON'T LET THE TRUCK BECOME THE HORSE!

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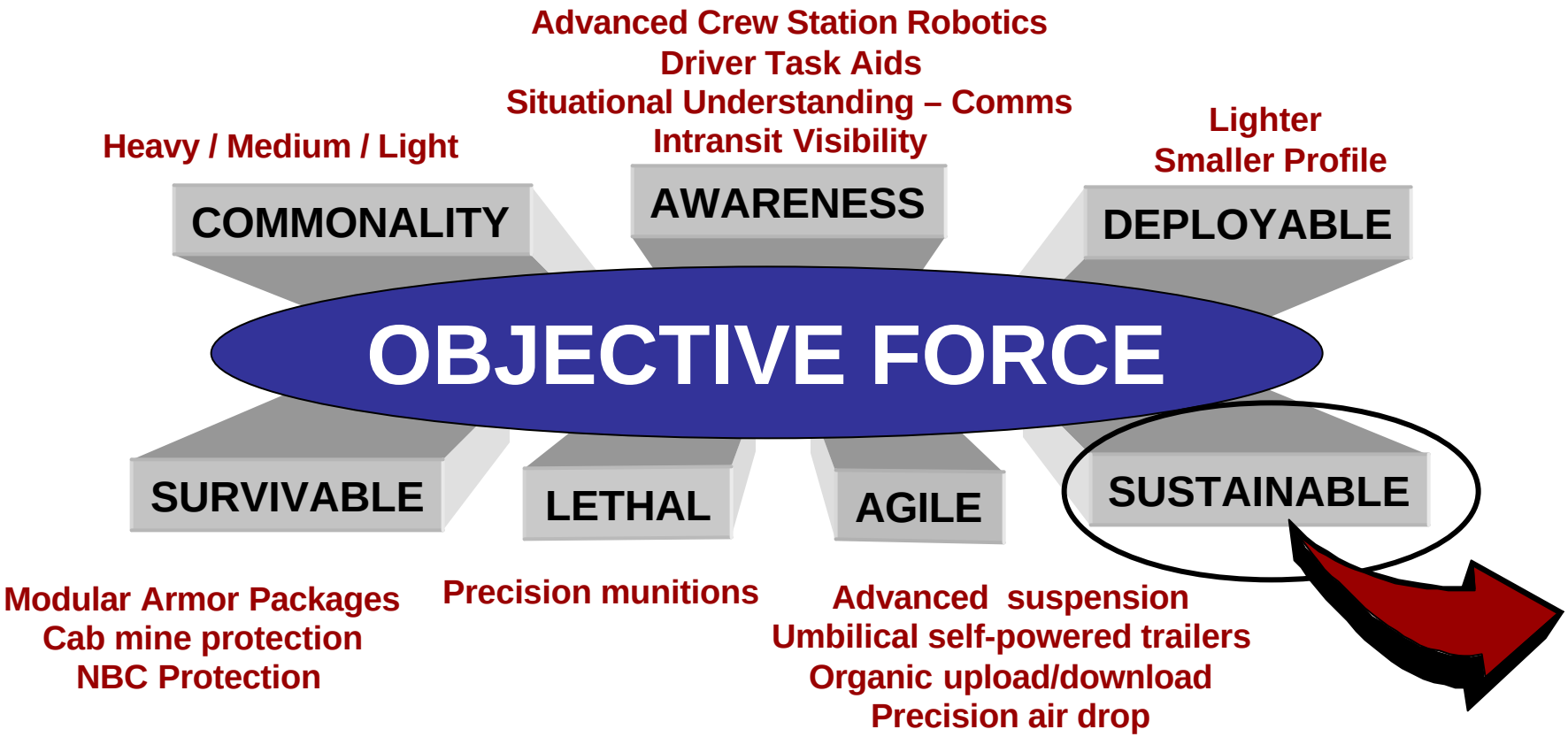
WE KNOW WHAT WE WANT

FUTURE VEHICLE CHARACTERISTICS



PLATFORM DESIGN : Modular, Intelligent, Common Components

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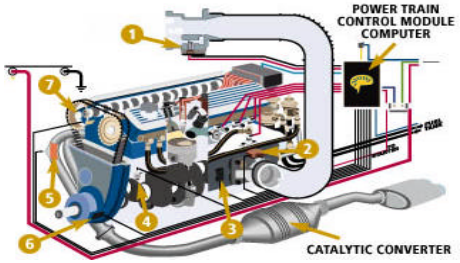
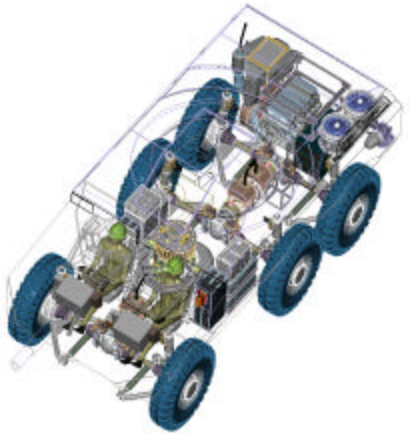
FUTURE VEHICLE SUSTAINMENT CHARACTERISTICS



Perpetual Test Embedded Diagnostics/Prognostics

Smart Battery

Petroleum, Oil & Lubricant (POL) Sensor



Hybrid Electric Engine

- ✓ Ultra-reliable components
- ✓ Easy access / minimal time for required maintenance
- ✓ Reduced preventive maintenance
- ✓ No external Test, Measuring and Diagnostic Equipment (TMDE)
- ✓ No special tools
- ✓ Multi-modal w/o reconfiguration
- ✓ Embedded diagnostics, prognostics
- ✓ Self-reporting platform
- ✓ Reduced acoustic, thermal, and smoke signatures
- ✓ Embedded upload / download materiel handling
- ✓ Robotic follow-on capability for cargo

FUEL EFFICIENT

GPS

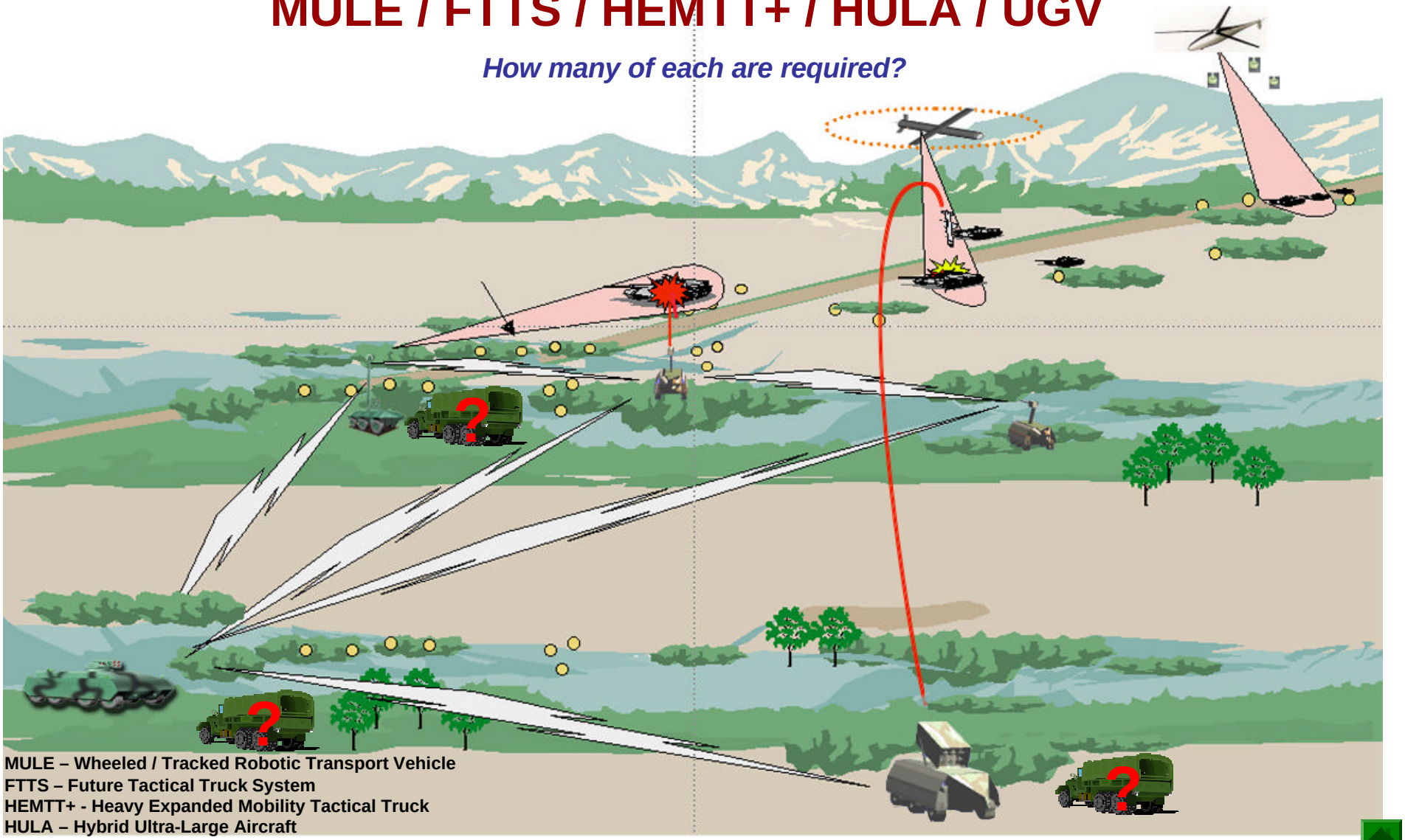
Driver's Vision Enhancer

Sustaining The Transforming Army

What is the future distribution platform for the Unit of Action / Unit of Employment?

MULE / FTTS / HEMTT+ / HULA / UGV

How many of each are required?

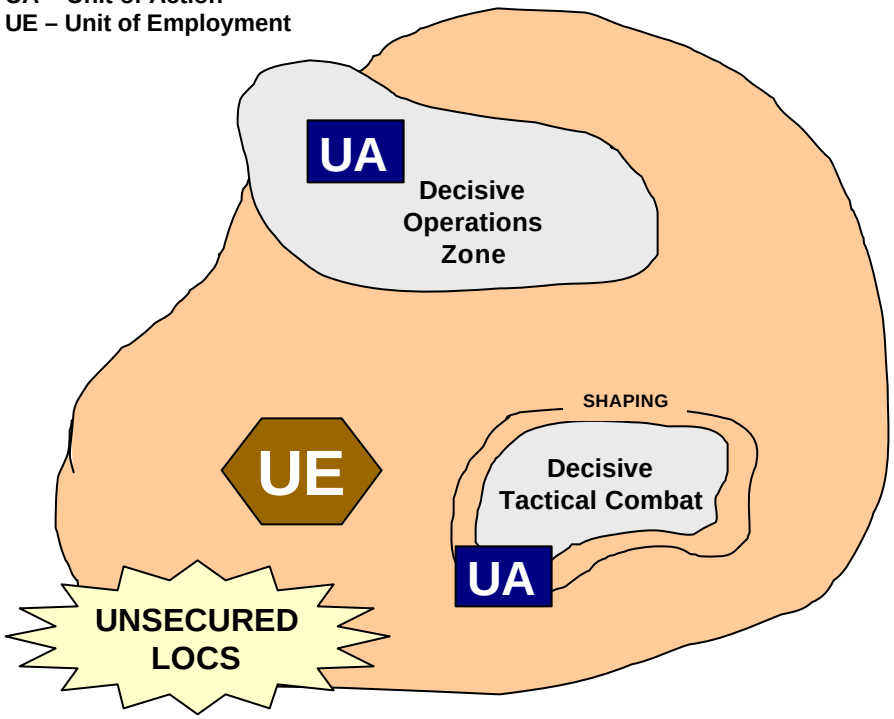


MULE – Wheeled / Tracked Robotic Transport Vehicle
FTTS – Future Tactical Truck System
HEMTT+ - Heavy Expanded Mobility Tactical Truck
HULA – Hybrid Ultra-Large Aircraft
UGV – Unmanned Ground Vehicle

CHARACTERISTCS FOR DISTRIBUTION PLATFORMS

Desired characteristics for future distribution platforms depend on their locations in the battlespace.

UA – Unit of Action
UE – Unit of Employment



The Unit of Action platforms must consider:

- C4ISR capability
- IFF capability
- Armor
- Self-protection / armament
- Laser-designating capability
- NBC monitoring capability
- Communications relay capability
- Embedded ITV
- Embedded PLGR
- Multi-modal w/o reconfiguration capability

These aren't necessarily required characteristics for platforms located at the Intermediate Staging / Support Base.

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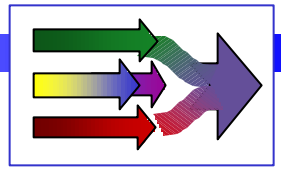
TWO-LEVEL MAINTENANCE CONCEPT



Field Maintenance

- On-system
- Plug and play components
- Fewer actions requiring tools
- Crew-level maintenance tasks
- Typical replace tasks:
  - Replace starter
  - Replace winch
  - Replace electronic module
  - Replace geared hubs
  - Replace engine
  - Replace transmission

Operators / Crew also serve as mechanics, Mechanics must be able to make "first-time fixes"

Sustainment Maintenance

- Off-system
- Disassemble / assemble
- Repair to national standard
- Requires wide variety of tools
- Typical repair tasks:
  - Repair starter
  - Repair winch
  - Repair electronic module
  - Repair geared hubs
  - Repair engine
  - Repair transmission

Concentrates on performing off-system component repair

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PERFORMANCE BASED LOGISTICS

Performance based logistics "rules" apply for our future distribution platform.

Key Boundaries / Constraints

- **Maintains standard Army business processes**
  - ✓ **uses supply, maintenance, and financial systems**
  - ✓ **does not conflict with DoD integrated enterprise business processes**
- **Army policies apply unless specifically waived by policy proponent**
- **Costs less, not more ACROSS the Army**
- **Support is transparent to user - no additional activities / agencies / layers / duplicity of management or response structure** ***(Bad example: 54 help desks for 4th ID)***
- **Less complicated, fewer managers, less duplication**
- **Contractors on the battlefield rules apply**
- **Must interface with DoD distribution hubs and asset visibility structure**

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CONTRACTORS ON THE BATTLEFIELD

Advances in technology mean we won't deploy without contractors. However, key decisions are still pending…..

- GOV'T CONTRACT LAW vs. UCMJ
- CONTRACTORS AS RESERVISTS
- COMMAND & CONTROL vs. MANAGEMENT
- CONTRACTOR STATUS: COMBATANT OR NON-COMBATANT
- Culture Change
- GREATER RISK = GREATER COST
- FORCE PROTECTION
- LOCATION IN BATTLESPACE
- LOCALLY-HIRED OR DEPLOY W/ UNITS
- SECURITY

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CONCLUSION

- **There is a need for a distribution platform.**
- **I support the Future Tactical Truck System Advanced Concept Technology Demonstration.**
- **We must ensure we don't allow the next 21st century truck to suffer the same fate as the 20th century's horse.**
- **We must focus our efforts to design a system that supports our Objective Force requirements – not only in capability, but in supportability.**

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SEND ME YOUR CARDS AND LETTERS

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THE ARMY –
AT WAR AND
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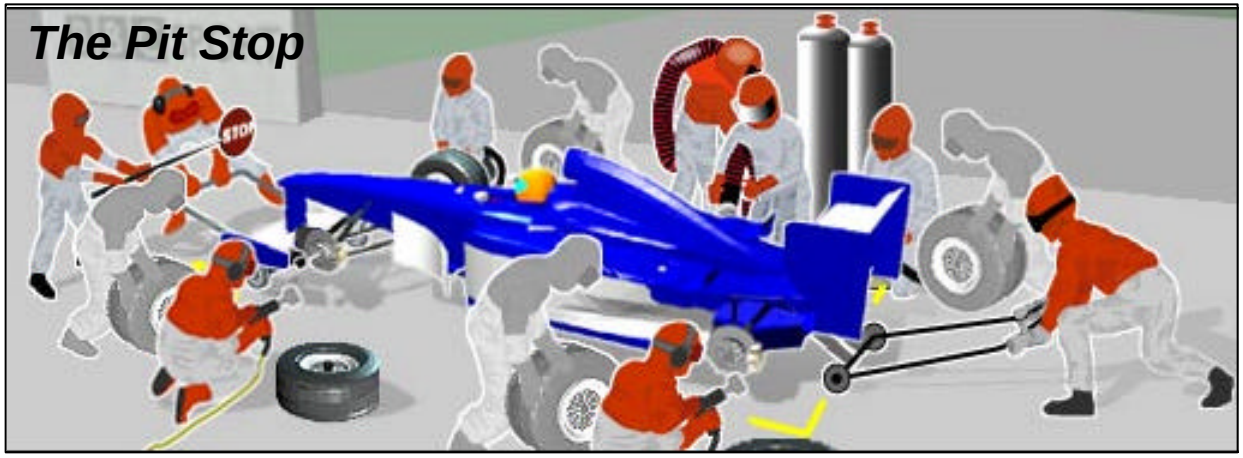
THE "PIT STOP" CONCEPT

The "Pit Stop" Concept

- Maintenance personnel work as a pit stop"crew"
- Supports "pulsed" operations concept
- Limits number / duration of personnel in battlespace



- ✓Easy access
- ✓Minimal time for maint
- ✓No special tools
- ✓No TMDE
- ✓Modular components
- ✓Embedded prognostics

TMDE – Test, Measurement and Diagnostic Equipment

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