GENERAL DYNAMICS
Land Systems

# Multi-Utility Tactical Transport (MUTT)

# Industry Expectations for the Capability

## High-Utility, Low-Burden Small Unit Asset

- Persist (Off-Load/Resupply, Expeditionary Power)
- Protect (C-IED Detect/Neutralize, Force Protection, CASEVAC)
- Project (Wide Area Security, Recon, Targeting, Remote Fires)

***A True Force Multiplier***

Warfighters often carry between 70 to 129 lbs, versus the 50 lbs recommended by the ASB

M274 Mechanical Mule was never replaced after introduction of HMMWV (which didn't fill the same gap)

# Industry Expectations for the Capability

**The Objective**

**Ideal UGV Characteristics:**

- Carry large loads
- Warfighter-like mobility
- Very simple to use
- Low signature (thermal, audio)
- Ultra reliable
- No OCU, No radios
- Low maintenance
- Runs on common fuels
- Gets to fight w/ Warfighter
- Provides electrical power
- Lightweight
- Low cost

**<< DECREASES Warfighter's Burden INCREASES >>**

**The Good**

- Off Load Weight
- Expeditionary Power
- Standoff From Threats

**The Bad**

- Mobility Impediment
- Increased Signature
- Hands Not Free
- Added Liability
- Maintenance Tasks
- Cognitive Load
- Training Tasks
- C4I Interoperability
- Logistics Tail
- Air/Grnd Transport

**MUTT minimizes Warfighter loading and the burden of adding a UGV into the small dismounted unit … the UGV alibi killer**

# Evaluation Events

- U.S. Army
  - Army Expeditionary Warrior Experiment Spiral I (lighten the load, CASEVAC)
  - Manned Unmanned Teaming (MUM-T) LOE (RWS armed, Engineer mobility, CASEVAC)
  - Arctic Military Utility Assessment (MUA) (lighten the load)
  - NIE 16.1/MUM-T G Experiment (lighten the load, RWS armed, Engineer mobility)
  - Jungle MUA (lighten the load)
- USMC
  - Marine Aviation Weapons and Tactics Squadron One (MAWTS-1) (C3, lighten the load)
  - MAWTS-1 ( FARP ordnance resupply)
  - Joint Captured Material Exploitation Center experiment (sensitive site survey, EOD operations)

# System Performance

- Tremendous mobility
- Robust design
- Ample endurance, for the events executed
- Low noise signature in electric drive
- Highly agile, maneuverable
- Easy to learn how to operate
- LOS remote control can push system 300+ meters out in front of formation
- Coupled with TARDEC mobility trailer, can carry 3+ DOS for assigned formation

# Anecdotal Soldier Comments

- Allows 6 days on a dismounted patrol w/o resupply
- Saves lives w/ rake/roller
- Increases lethality and survivability w/ RWS +.50 Cal
- Easy to operate
- Quiet
- Highly mobile
- Good range
- Wants MUTT now

# Lessons Learned

- There is a COTS solution to SMET out there
- Hybrid electric drive is a must
- Low/no noise signature is a must
- Tracked systems have greater mobility
- Operator must have “eyes” on system when pushing it out to further distances via remote control
- Must be robust, Soldiers will push systems to their limits
- Must be easy to operate, preferably control with one hand/hands free