Future Tactical Truck System (FTTS)
FY04 ACTD Candidate

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Chief of Transportation
United States Army

Monterey

Tactical Wheeled Vehicle Conference
Problem Statement

CURRENT TACTICAL WHEELED VEHICLES DO NOT POSSESS THE VERSATILITY (LOAD HANDLING), DEPLOYABILITY (C130 ROLL ON/ ROLL OFF), MAINTAINABILITY (DIAGNOSTICS and PROGNOSTICS), RESPONSIVENESS (FUEL EFFICIENCY and C4ISR) AND SURVIVABILITY (ARMOR) TO SUSTAIN CONTINUOUS OBJECTIVE FORCE OPERATIONS WITH TIMELY, RAPID, AND PULSED DELIVERY OF SUPPLIES

The pipeline is too slow and the Army’s logistics footprint is too large!
OBJECTIVE FORCE

TRANSITION FROM FY03 TO OBJECTIVE FORCE

FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11

CURRENT FORCE (HET, PLS, HEMTT, M915, FMTV, HMMWV)

M1A2SEP TANKS IN SERVICE IN FY30
REPLACE & UNIT ACTIVATIONS (ADRS)
PLS contract ends FY07
HEMTT funding linked to ESP

OBJECTIVE FORCE

RDT&E

FTTS
MANEUVER SUSTAINMENT
UTILITY

INTERIM FORCE (HEMTT-LHS, FMTV, HMMWV)

HEMTT ESP contract ends FY07
FMTV contract ends FY08
HMMWV contract ends FY07

GOAL: REDUCE LIGHT, MEDIUM & HEAVY FLEET TO TWO
ACTD Objective

FTTS-MSV Load Handling System

FTTS-UV provides Command and Control and includes a Hybrid propulsion system for increased fuel efficiency and onboard power

Numerous Material Handling Equipment

Numerous Delivery Platforms

Numerous Interface Devices

Med & Heavy Truck Variants

A SEAMLESS Distribution SYSTEM built for the Obj Force (Applied to the SBCT to evolve the TTPs, CONOPS, and doctrine)

4/15/03
Basic Concept
FTTS Reduces Handling Hours

FTTS-MSV Reduces

What we have today...

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<th></th>
<th>APOE</th>
<th>APOD</th>
<th>FOB</th>
<th>SRS</th>
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Handling Hours

What we need tomorrow!

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<th>APOE</th>
<th>APOD</th>
<th>FOB</th>
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POD – Port of Debarkation
FOB – Forward Operating Base
SRS – Sustainment Replenishment Site
UA – Unit of Action
TRANS PLT REQUIREMENT
- 8 DROP POINTS (BDP)
- 24 CROP
- 31 SOLDIERS (1-0-30)
- SIMULTANEOUS DELIVERIES
- 14 HEMTT-LHS

SBCT Transportation Platoon:
- Provides lift capability for the movement of all classes of supply
- Delivers sustainment supplies to the SBCT down to the battalion level.
- Capable of transporting up to 308 STONS on CROPs in a single lift.

Objective: Replace 7 HEMTT LHS with **7 FTTS-MSV** and 2 HMMWVs with **2 FTTS-UV** in a surrogate SBCT Trans Squad to prove a seamless distribution system that has a reduced logistics footprint and reduced fuel dependency that will support the Objective Force
**FCS Technology Base Programs Leveraged for FTTS**

- **TACOM-ARDEC**
  - Vehicle Alignment System
  - Intermodal Flatrack
  - Intelligent Load Handling System
  - Smart Tie Down
  - Pre-Configured Packaging
  - Robotic Trailer
  - 60% Reduction in Resupply Time

- **TACOM-TARDEC**
  - 100% in Situational Awareness
  - Advanced Crew Station
  - Integrated C4ISR
  - Enhanced Situational Awareness
  - (III.GC.1999.02 Crew integration and Automation Test Bed)
  - Embedded Diagnostics/Prognostics
  - Embedded Training and Simulation
  - Automated Maintenance
  - Zero unscheduled Maint. actions
  - Active Suspension
  - Advanced Propulsion
  - (IV.GC.1999.01 Combat Hybrid Power Systems/ III.GC.1996.01 Ground Propulsion and Mobility)
  - 25% or greater Mobility
  - 18% more survivable
  - Modular Armor
  - Objective Crew Served Weapon
  - Transparent Armor
  - NBC Overpressure
  - Mine Blast protection

- **FY04 ACTD Candidate**
  - On-board Power Generation
  - On-board Water Generation

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4/15/03
Threshold Capabilities

Responsiveness
- Greater Fuel Efficiency 100 - 200%
- Dynamic Movement Tracking and Re-routing
- Greater Range 600 – 900 miles
- Integrated C4ISR

Sustainability
- Reliability - MTBF > duration of Pulsed Operations
- Maintainability - Self-reporting, no special tools, No TMDE, and No Spares

Agility
- Higher Mobility Rated Speed: 50% increase
- Must be able to go where FCS goes and bypass built up Areas to deliver support

Versatility
- Advanced Load Handling
- Interchangeable/Intermodal Operation
- On Board Power & water Generation
- Deliver integrated, common, formed Packaging

Deployability
- C130 Roll on/ Roll off w/ load
- Ready to support off the ramp Without vehicle preparation or Transportability waivers

Survivability
- Designed upfront to provide time definite and assured delivery
- Reduced Emissions and Signature

ORD Starting Point
### FTTS Procurement Funds Begin in FY08

**FTTS-MSV**

- Concept and Tech Development:
  - MNS/MS A Approval
  - ACTD
  - MS B Approval
- System Development & Demonstration:
  - ORD
  - MS C
- Production & Deployment:
  - LRIP

**FTTS-UV**

- Develop & Test
- MS B Approval
- MS C
- FUE
- LRIP
- FULL SCALE PRODUCTION

**FCS Schedule**

- CTD Award
- MS B Approval
- MS C
- FUE
- IOC
- FULL SCALE PRODUCTION

**FTTS-MSV FUE FY10** is 2 years behind FCS FUE FY08

**FTTS-UV FUE FY13** is 5 years behind FCS FUE FY08

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**Transition Schedule**

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<th>FY02</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
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**FTTS-MSV**

- STATUS:
  - Mar 03 – MAA/MNA
  - Jun 03 – ACTD Approval
  - May 03 – O&O
  - Sep 03 – ICD
  - Apr 05 – CDD
  - Aug 07 – CPD
  - Aug 10 – FUE (MSV)

**FTTS-UV**

- ACTD Reduces Acquisition Risk for the PM
Schedule

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**MSV (7 Vehicles)**

- INTEGRATE TECHNOLOGIES
  - ACTIVE/REACTIVE SUSPENSION
  - ALL WHEEL STEER
  - HYBRID (ON-BOARD POWER)
  - POWER/ENERGY MANAGEMENT & DISTRIBUTION
  - ADVANCED LOAD HANDLING
  - EMBEDDED DIAGNOSTICS
  - C4ISR
  - ARMOR (7.62 & MINE PROTECTION)

**Residuals**

**UV (2+ Vehicles)**

- INTEGRATE TECHNOLOGIES
  - ACTIVE / REACTIVE SUSPENSION
  - ALL WHEEL STEER
  - POWER/ENERGY MANAGEMENT & DISTRIBUTION
  - HYBRID (ON-BOARD POWER)
  - EMBEDDED DIAGNOSTICS
  - C4ISR
  - ARMOR (7.62 & MINE PROTECTION)

Vehicles in the hands of users within 24 months

Joint Exercise
Proposed Future Tactical Truck System (FTTS) ACTD Players

ARMY
Lead Service

USMC

USAF

COCOM Sponsor
(PACOM)

CASCOM
Requirements Integrator

Deputy Operations Manager

TACOM - TARDEC
TACOM - ARDEC
Technical Managers

PM Heavy Tactical Vehicles Transition Manager
Warfighter Payoffs

- Reduced logistics footprint
- Reduced dependency on fuel
- Provide a “near term” operational solution.
- Examine FTTS technology in context of the emerging operational Concept.
  - Bring a new dimension of multi-mission utility to Army TWV.
  - Provide Operational Reach, Tactical Flexibility, and Sustainment.
  - Examine FTTS role in supporting Deployment, Employment, Sustainment and Redeployment of Combat unit sets.
- “Stepping stone” to advanced structure and Hybrid technologies integrated with advanced communications technology.