



# Future Tactical Truck System (FTTS) FY04 ACTD Candidate



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Chief of Transportation  
United States Army

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**Tactical  
Wheeled  
Vehicle  
Conference**





# Problem Statement



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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



DEPOT

PORT

Truck to Air/Ship

Air/Sea to Truck to TSV/Air

Unit of Employment Truck to Truck

FOB

Unit of Action

MSS/SRS

FORT



POD



The pipeline is too slow and the Army's logistics footprint is too large!





# TACTICAL WHEELED VEHICLE VISION

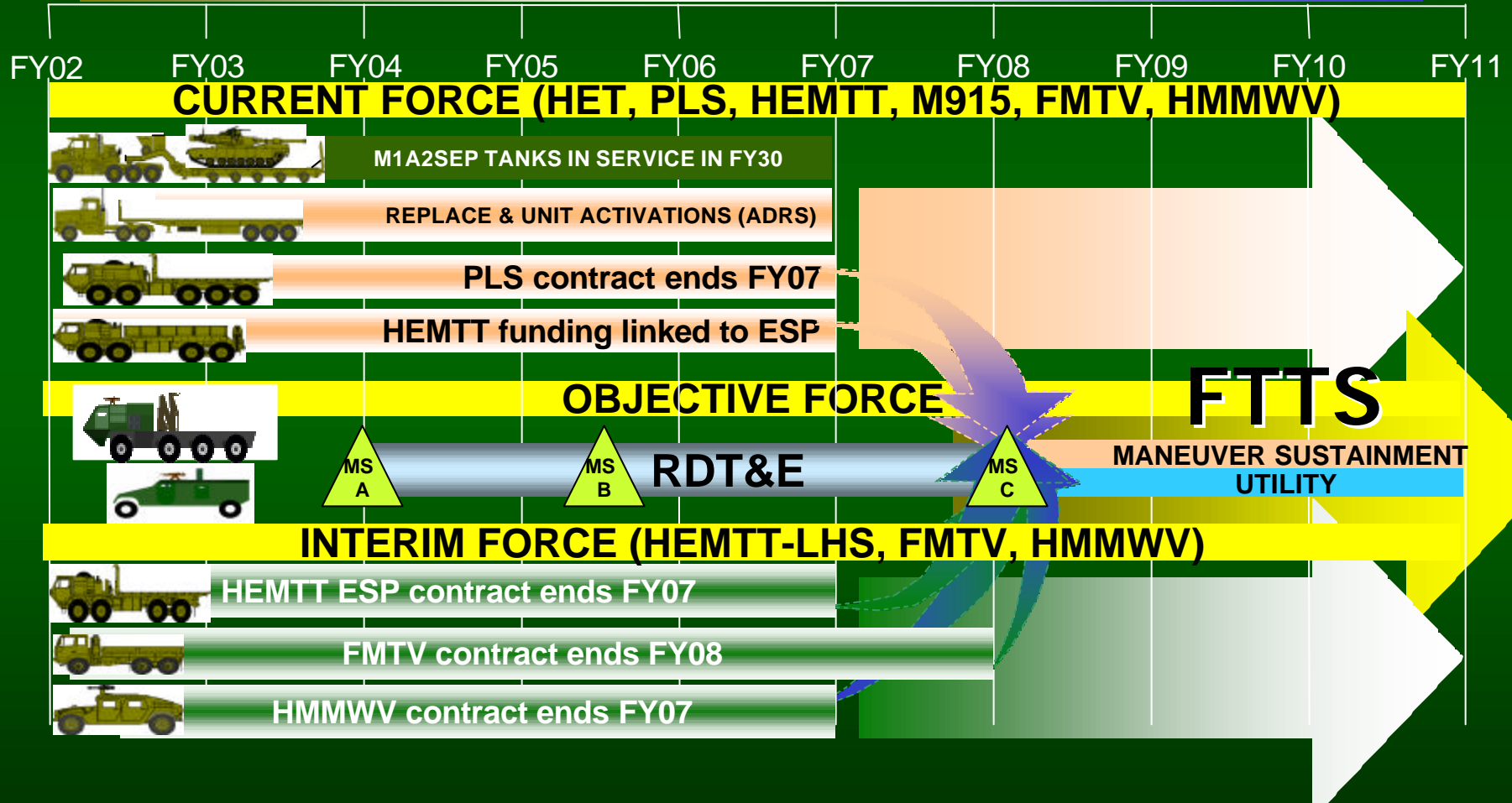
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FY 03

OBJECTIVE

TRANSITION FROM FY03 TO OBJECTIVE FORCE



GOAL: REDUCE LIGHT, MEDIUM & HEAVY FLEET TO TWO





# ACTD Objective

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Med & Heavy Truck Variants

3 to 1



Load Handling System



Numerous Material Handling Equipment

8 to 1



FTTS-MSV



Numerous Delivery Platforms

4 to 2

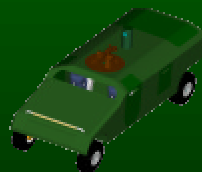


Modular Platform



Numerous Interface Devices

5 to 1



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

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





# Basic Concept FTTS Reduces Handling Hours



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POD – Port of Debarkation  
FOB – Forward Operating Base  
SRS – Sustainment Replenishment Site  
UA – Unit of Action

## What we have today...

## Handling Hours

## What we need tomorrow!

	APOE	APOD	FOB	SRS	Total
Time	20.2	7.7	3.9	6.7	38.5
Equipment	48.2	22.7	40.1	200.0	311.0
Personnel	90.5	51.3	40.1	333.0	515.3

	APOE	APOD	FOB	SRS	Total
Time	8.1	6.3	1.1	2.4	17.9
Equipment	22.7	11.0	15.2	48.0	96.8
Personnel	53.0	35.0	15.2	48.0	151.2

# Type of Demonstration

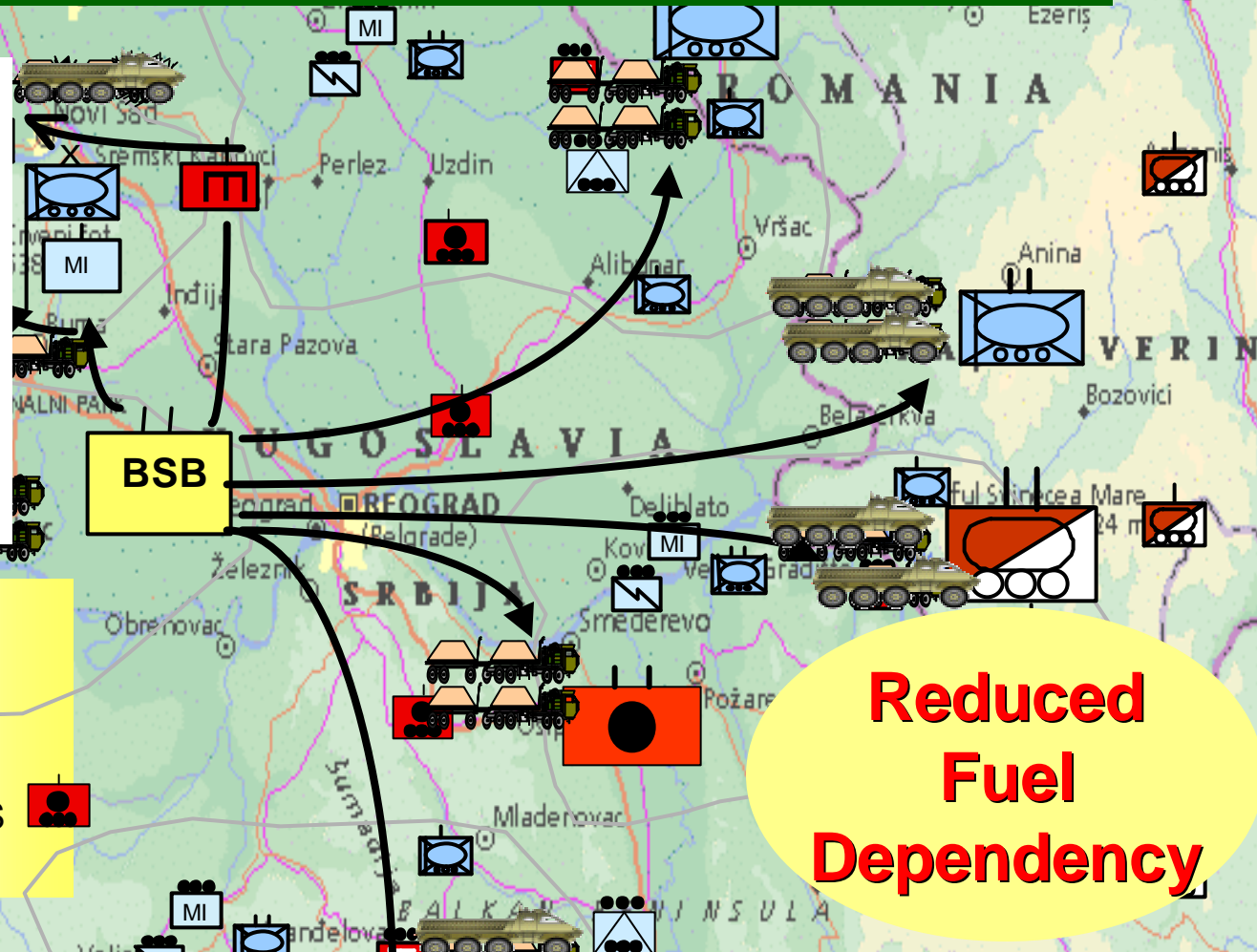
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## SBCT Transportation Platoon:

- 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.

## TRANS PLT REQUIREMENT

- 8 DROP POINTS (BDP)
- 24 CROP
- 31 SOLDIERS (1-0-30)
- SIMULTANEOUS DELIVERIES
- 14 HEMTT-LHS



**Reduced Fuel Dependency**

**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

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## TACOM-ARDEC



Vehicle Alignment System  
Intermodal Flatrack  
Intelligent Load Handling System  
Smart Tie Down  
Pre-Configured Packaging  
Robotic Trailer  
(III.GC.2000.04-Autonomous Follower ATD)

**60% Reduction in  
Resupply Time**

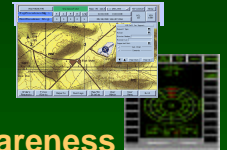


**100% in  
Situational  
Awareness**

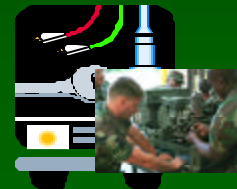


## TACOM-TARDEC

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



**25% or  
greater  
Mobility**



Active Suspension  
Advanced Propulsion  
(IV.GC.1999.01 Combat Hybrid Power Systems/ III.GC.1996.01 Ground Propulsion and Mobility)

**Zero unscheduled  
Maint. actions**

**18% more  
survivable**



Modular Armor  
Objective Crew Served Weapon  
Transparent Armor  
NBC Overpressure  
Mine Blast protection

**100 % increase in  
Fuel efficiency**

On-board Power Generation  
On-board Water Generation

(IV.GC.2000.02 Ballistic Protection for FCS/ IV.gc.2001.01 Signature Mgt for FCS/ III.GC.1999.01 Full Spectrum Active Protection)





# Threshold Capabilities

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## 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

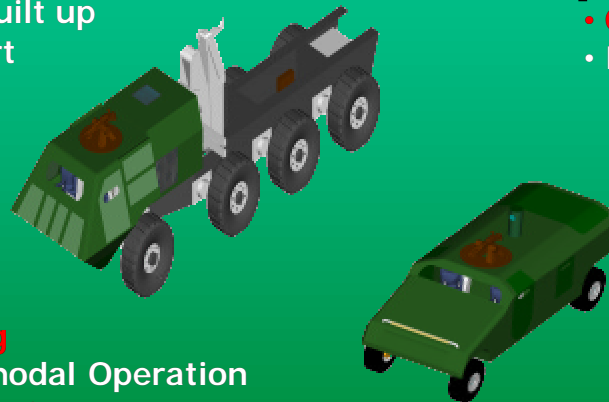
## Deployability

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

## Lethality

## Versatility

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



## Survivability

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

## Responsiveness

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

ORD Starting Point





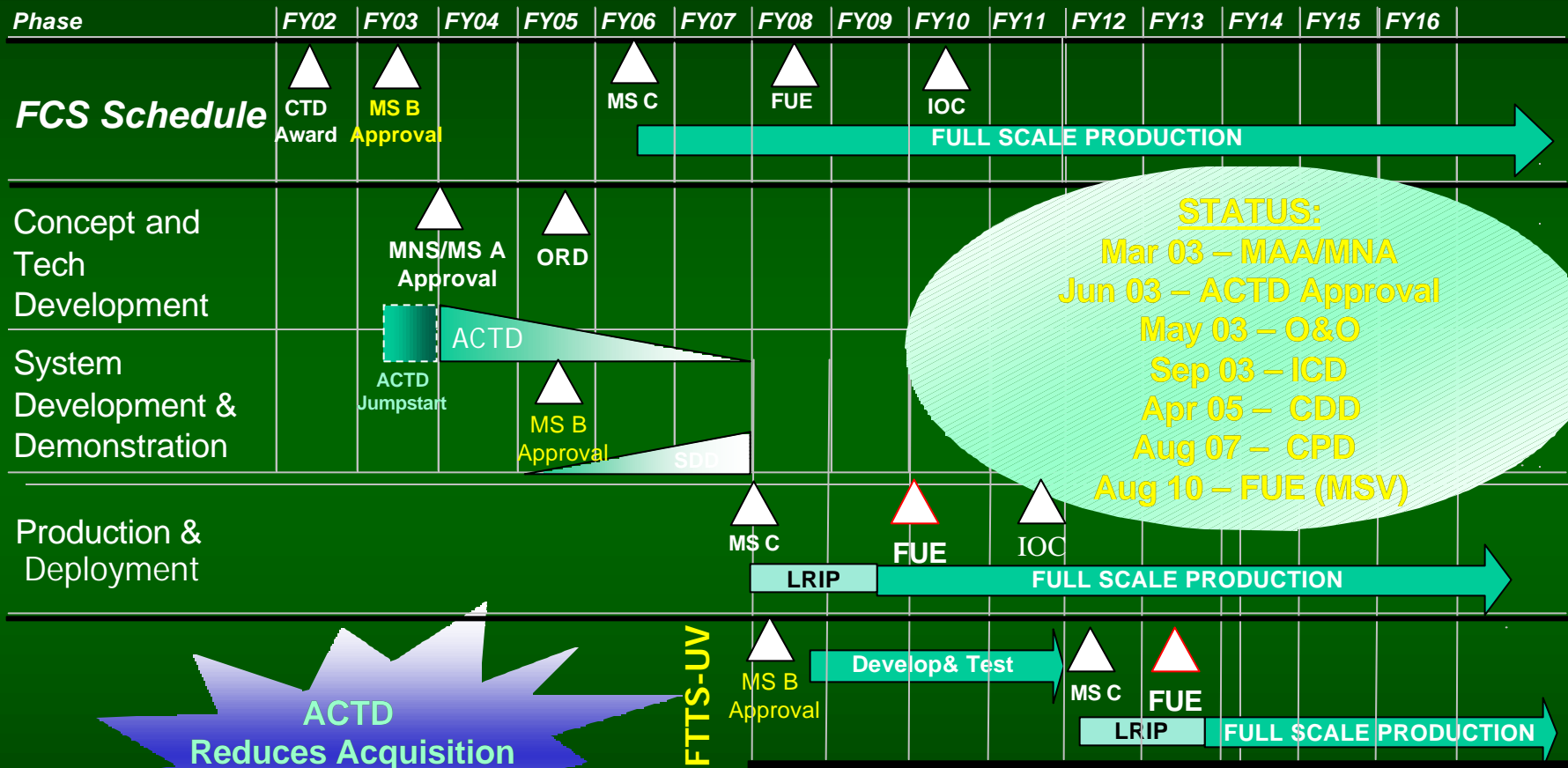


# Transition Schedule

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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)

ACTD Reduces Acquisition Risk for the PM

▲ FTTS-MSV FUE FY10 is 2 years behind FCS FUE FY08  
 ▲ FTTS-UV FUE FY13 is 5 years behind FCS FUE FY08

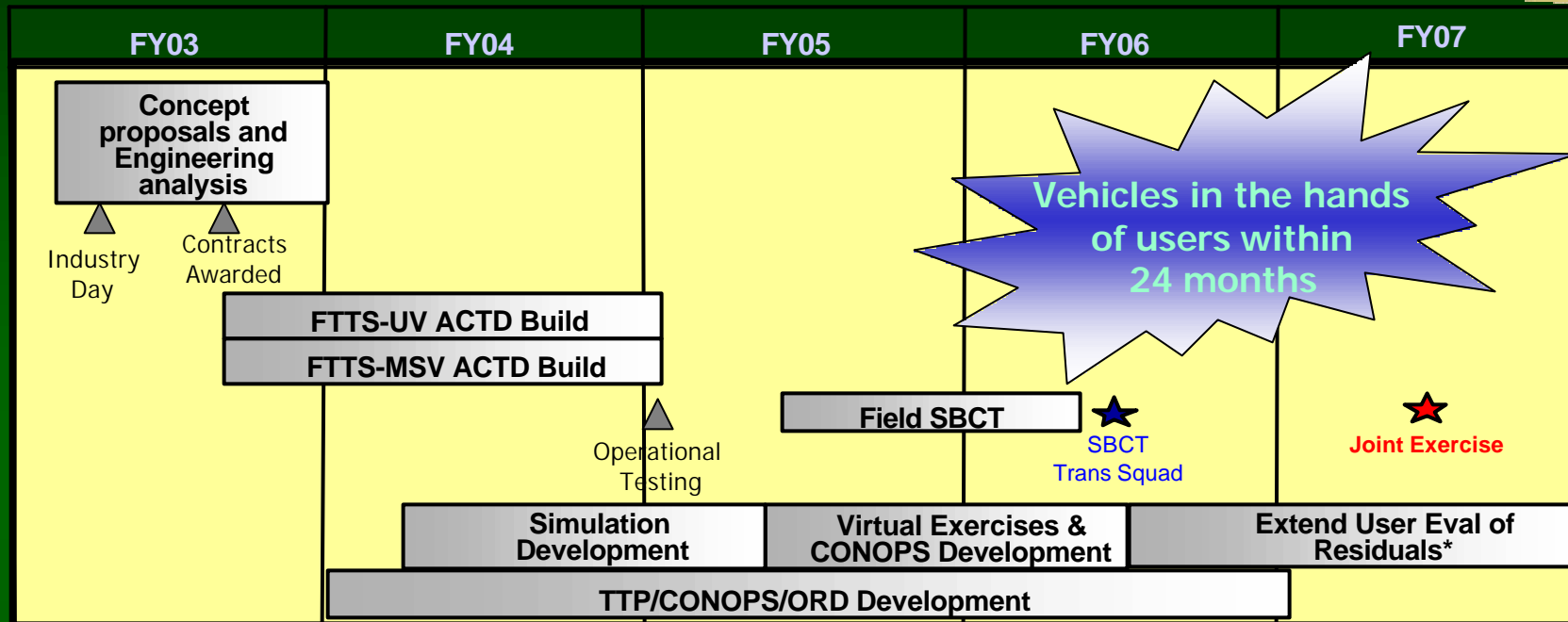
**FTTS Procurement Funds Begin in FY08**





# Schedule

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## MSV (7 Vehicles)

## Residuals

## UV (2+ 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)

- INTEGRATE TECHNOLOGIES

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



# Proposed Future Tactical Truck System (FTTS) ACTD Players

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**ARMY**  
Lead Service

**USMC**

**USAF**

FTTS-MSV FTTS-UV



**COCOM Sponsor (PACOM)**



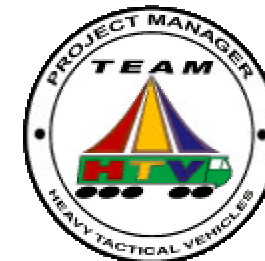
**CASCOM**  
Requirements Integrator  
Deputy Operations Manager



**PM Heavy Tactical Vehicles Transition Manager**



**TACOM - TARDEC**  
**TACOM - ARDEC**  
Technical Managers





# Warfighter Payoffs

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- 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.