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 240,000 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
Global Threats

System
Cold War: Built around Mass
“'The Big eat the small'”

Globalization: Built around Speed
“The Fast eat the slow”

Korean War
1950-1953

Vietnam War
1965-1973

Desert Storm
Jan-Feb 1991

Joint Endeavor
1995-1996

Cold War
1947-1991

Noble Anvil
1999

SEP 11
2001

“Defending our Nation against its enemies is the first and fundamental commitment of the Federal Government.”

The National Security Strategy of the United States of America September 2002

Asynchronous

Chemical

Biological

Nuclear

Conventional
Distribution Based Logistics

CURRENT COMMERCIAL PRACTICES

- INTEGRATED SUPPLY CHAIN MANAGEMENT
- VENDOR-MANAGED INVENTORIES
- AUTOMATIC IDENTIFICATION
- DIRECT VENDOR DELIVERY
- LOAD OPTIMIZATION
- SMART SIMPLE DESIGN
- THIRD PARTY LOGISTICS
- INTERMODAL
- INFORMATION MANAGEMENT
- DISTRIBUTION BASED

Leverage Commercial Best Business Practices

STATED MILITARY OBJECTIVES

- VELOCITY MANAGEMENT
- VALUE CHAIN
- INTEGRATED INFORMATION SYSTEM
- MONITOR / MANAGE UNIT READINESS
- REAL TIME DISTRIBUTION & ASSET MANAGEMENT
- DYNAMIC MATERIEL FLOWS
- TWO-WAY INFORMATION FLOW
- ANTICIPATORY LOGISTICS

RIGHT SUPPLIES TO THE RIGHT LOCATION AT THE RIGHT TIME

Support Starts Here!
Distribution Examples

- Internal sustainment delivers to the warfighter’s sustainment section (1&2)
- Precision Aerial Resupply (3)
- External sustainment unit delivers to the warfighter’s sustainment section (4)
- External sustainment unit meets with internal warfighter and sustainment sections (5)
- Combinations of the above
**Overarching Need**

- Self-Sustainable for 3 days High Optempo / 7 days Low Optempo without mission failure
- Operate within 1000 k x 1000 k Operational Area ( Traverse 750 k without refuel)
- Operate over unsecured Lines of Communication (routes)
- Provide direct resupply to the warfighter / Informational command and control and support
- Operate at same speeds over same terrain as the warfighter
- Close a Brigade size element within 96 hours
- Self Protect / NBC Survivable

**DOCTRINE REQUIRES FTTS**
Requirements

Agility

% of Terrain Crossed Over Time
Primary 33% / Secondary 33% / Cross Country 34%

Fording Capability
48” (T) / 60” (O) without kit (MSV)
40” (T) / 60” (O) without kits (UV)

Operational Environmental Range
All Environment Capable in Ambient Air Temperatures -
25°F to 120°F & -50°F to 120°F with a kit (T)
Requirements

Deployability

Air – all without waiver
C-130 - 6 ST load and not exceeding 16 ST allowable cabin load (MSV);
Three in a C-130 (UV)
C-17 - Four with payload / Two with payload and trailer with payload (MSV)
C-5 - Eight with payload / Four with payload and trailer with payload (MSV)
CH-47/UH-60/CH-53/MV-22 Externally Air Transportable (UV)

Rail
Meet all rail diagrams worldwide

Ship
Roll-on/Roll-off with payload and trailer with payload

Land
By trailer with load without over-weight/over dimension permits

CLOSE THE BRIGADE WITHIN 96 HOURS

Support Starts Here!
Requirements
Sustainability

**Diagnostics / Prognostics**
Prognostic Capability: Detect 45% System Abort (Mission Critical) failures at 90% accuracy rate
Diagnostic Capability: Have 95% truck subsystems covered with sensors with detection error rate less than 3 %

**Reliability**
Mean Miles Between Operational Mission Failure (MMBOMF) of not less than 5,500 miles of operation

**Two-level Maintenance**
60% field maintenance actions done by Operator
Maintenance Ratio = For every 100 operating hours, no more than 2.5 maintenance hours (.025)

**CONSISTENT RELIABILITY**
Requirements
Survivability

**NBC**
Protect crew in NBC environment for 6 hours (T) / 12 hours (O)

**Armor**
Operable against 7.62 mm AP Ball / Survivable against 14.5 mm AP ball ammo (T)

Operate over a 12 pound mine blast (T) / Survivable over a double stacked 18 pound mine blast (O)

Armor mountable in 15 minutes (T) / dismountable in 30 minutes (T) by no more than 2 soldiers (T) integrated armor (O)

**PROTECT THE SOLDIER**
Requirements Versatility

Smart Distribution
Seamless Distribution Pipeline w/o use of MHE:
- Integrated LHS System
- Inter-modal Modular Platform System
- Vehicle Alignment System
  • Smart Tie-Down
  • Configured Load Building Software
  • Robotic Trailer

On Board Generation
Power: ±60kW - ±200kW (MSV); ±5 kW - ±30kW (UV)
Water generation

On Board Systems
>10 common tools on board (T) / Zero (O)

REDUCE HANDLING TIME AND LOGISTICS FOOTPRINT
Requirements
Responsiveness

Range
600 Miles (T) / 900 Miles (O)

C4I
Integrated C4I space and power claims / Integrate with the warfighter’s information system / Real Time Visibility

Operate over extended distances
Maintain communication with the warfighter
Requirements
Lethality

**Self Defense**
Mount MK-19, M2, SAW, M240 (T) / Objective Crew Served Weapon (O)

**Aerial Support**
Unmanned Aerial System (UV and MSV)

ENSURE DECISIVE VICTORY
Industry Participation

✓ Need Industry’s comments on Emerging Desired Capabilities for both the FTTS-MSV and the FTTS-UV

✓ Collect comments by 3 January 2003

✓ Collect comments via downloadable comment matrix at www.cascom.army.mil/transportation/FTTS

✓ Send Comment Matrix via email to jay.abernathy@us.army.mil and include in the subject line “FTTS EDC comments”

REMINDER: REVIEW OF UPDATED DOCUMENT AT MONTEREY
## Comment Matrix

<table>
<thead>
<tr>
<th>EDC PAGE #</th>
<th>EDC Line #</th>
<th>Recommended Change</th>
<th>Reason for Change</th>
<th>Impact of not Changing the Requirement</th>
<th>Comment POC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
QUESTIONS ???