



U.S. ARMY ADVANCED LIGHTWEIGHT TRAILER TECHNOLOGY DEMONSTRATOR

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SPECIAL PROJECT - TRAILER

- Advanced Lightweight Trailer Technology Demonstrator
- PM Trailers – Program under support/direction of LTC John Myers for AUSA Demo
- TARDEC – Program coordination/funding
- CCM – Lightweight Composite Trailer
- Picatinny – Welded Titanium Trailer
- CTC – Aluminum-Lithium alloy, Friction Stir Welded Trailer



P4 Preform

WebCore Technologies, Inc.

3D Core Materials

GOALS

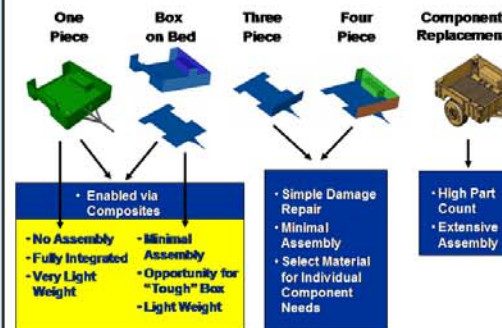
- Demonstrate advanced suspension technologies
- Demonstrate advanced lightweight materials and design



METRICS FOR SUCCESS

- Suspension Mobility and Stability
- Durability
- Move CG downward
- Modularity
- Reconfigurable
- Weight Reduction

CONCEPT TREE

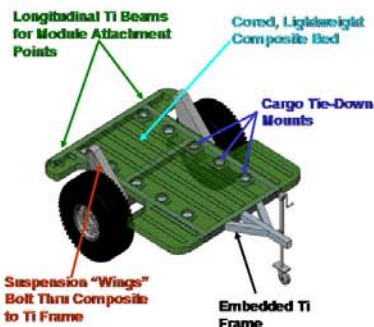


MODULAR VARIANT



- Load Module Concepts
 - Load Box (standard) – with or without cover and liner
 - Liquid Transport
 - Generator Sets
 - Weaponry
 - Communications Module

COMPOSITE MODULAR TRAILER



MONOCOQUE COMPOSITE "BOX"

- All composite
- One piece molding
- NCC P4 preform with core
- Simple attachment to bed - options
 - Bolts
 - Simple "locking" mechanism
 - "Twist lock" cargo tie-downs
- Pass-thru cargo tie-down
- Build 2
 - 1 for CCM composite trailer
 - 1 for CTC/PICA trailers - split



TRAILER FEATURES SUMMARY

- Process
 - VARTM molding process for fabrication of Bed and Box components
- Materials
 - Glass and/or carbon reinforcement
 - Integral metallic components (Ti Frame, etc.)
- Design
 - Hybrid composite/titanium "Flat Bed"
 - Composite monocoque "Box" with modular attachment mechanism
 - Self-reacting suspension from DTI
 - Self-storing weatherright enclosure – doubles as protective bed liner
- Tooling
 - Simple low-cost tooling