

MACK TRUCKS

Automotive

Architecture/Design/Packaging
CAE Analysis & Optimization
Electrical/Embedded Systems

ALTEN ADDED VALUE

Long-term relationship with our client

Short ramp-up time with an established team

Extensive knowledge of heavy truck and compliance standards (STANAG, MIL-STD, SAE)

KEY TOOLS & TECHNOLOGIES

Creo, CATIA, ANSA, and Nastran
GD&T

KEY DATA

Team Size: 5 Engineers

Time: 2017–2020

Location: Greensboro, NC
Work Package

ALTEN TECHNOLOGY

MACK DEFENSE AWD HEAVY-DUTY DUMP TRUCK DESIGN

OVERVIEW

ALTEN Technology served as a partner to Mack Defense in a complete vehicle development project for the U.S. Army. ALTEN Technology was responsible for the entire vehicle CAD representation.

The HDT project began in 2017 with a mule truck study and was released for production in 2020.

PROJECT DETAILS

- Provided packaging and geometrical assurance of components and systems
- Provided support in navigating the PDM systems within Volvo Group and identifying potential issues with the creation of a new product
- Designed new components, including chassis structure, powertrain interfaces, and mounts for heavy chassis equipment
- Performed detailed structural analyses, including stress, strain, deflection, and reaction forces
- Conducted modal analysis to resolve resonance problems
- Designed electrical architecture, including the integration of military equipment
- Performed field-of-view driver position study
- Investigated all components and systems for compliance with defense-specific requirements and standards

