

OEM

Automotive



IMPROVING THE FREIGHT-HAULING EFFICIENCY OF A HEAVY-DUTY TRACTOR-TRAILER

OVERVIEW

- The client is involved in a publicly sponsored development project from the US Department of Energy aimed at improving the freight-hauling efficiency of heavy-duty tractor-trailer trucks.
- ALTEN Technology provided key resources to the client for the cab, chassis, and electrical system.
- The project's target was a 50% improvement in freight efficiency over a 2009 baseline vehicle and a 50% brake thermal efficiency of the diesel engine.
- The key improvement areas were a 40% improvement in complete vehicle aerodynamics and a 70% improvement in fuel economy.

PROJECTS DETAILS

- Performed electrical hardware and software research and development, including component ownership, testing, and verification
- Performed mechanical engineering for lightweight chassis development
- Vehicle architect responsible for the complete vehicle, including chassis, engine, cab, and electrical system
- Supported component development with selected suppliers

KEY TECHNOLOGIES

- Catia V5, Enovia
- Creo, PDM Link, client PLM tool, AVP
- ANSA, ANSYS
- CANalyzer, MATLAB, dSpace
- Simulink, Engineering Tool