

Vehicle Electronics Testing for Large Vehicle Production (VET)

Case Study - VET AutoTester

Automated testing is a challenge faced by all large vehicle manufacturers. Daimler Trucks North America LLC (DTNA), a Daimler company, is the largest heavy-duty truck manufacturer in North America and the leading producer of medium-duty trucks and specialized commercial vehicles. DTNA is the world's largest commercial vehicle manufacturer.

With the globalization of DTNA's customers from 36 countries and the ever increasing vehicle options, vehicle electronic options warranty claims have significantly increased. Fundamental process and workflow issues prevented the existing test system from providing useful data: 1) to operators to resolve issues, 2) for engineers to make necessary design changes, 3) for management to make process improvements. Due to previous workflow processes and supporting systems, departmental accountability could not be enforced.

After evaluating the existing market for solutions and understanding that "off the shelf" systems were not available, Daimler Truck approached IES Group to design a modular and scalable Vehicle Electronics Testing (VET) system.

VET AutoTester Overview

VET AutoTester is built on Microsoft.Net and is comprised of four modules, VET UI, VET Web Reports, VET Web Test Wizard and VET Broadcast. VET UI has its own hardware abstraction layer, allowing it to run independently of attached IO based solutions. Currently, VET UI integrates with GE Fanuc VME, National Instruments PXI and National Instruments PCI IO, Lambda Programmable Power Supply, Wireless Current Probes, and Nexiq USB vehicle interface modules. VET Web Reports consolidates all metric data into a central website for operator, engineer and management analysis. VET Web Test Wizard allows engineers to add/configure tests via an Web interface as new vehicle options are added to the vehicle. VET Broadcast retrieves the current production schedule and vehicle options from corporate mainframe and database servers.

DTNA uses VET AutoTester in four areas:

- Frontwall Line Test System (Dash)
- Cab Line Test System (Cab)
- Chassis Line Test System (Completed Vehicle)
- Offline Test System (Portable System)



Key Benefits

- *Eliminates communication of build issue to engineering staff*
- *Focuses on test results, not test execution*
- *Identifies re-occurring issues that can be consistently resolved*
- *Allows extensive testing without increasing staffing resources*
- *Provides a results documentation "Report Card" at each stage of testing*
- *Operators use dynamic repair notes when a test fault occur*
- *Operator Performance vs. TAKT, TOP 10 Issues Pareto, & 1st Time Quality*

Why IES Group?

Vehicle electronics issues is on the top 10 warranty issues of any large vehicle manufacturer. With VET AutoTester, you have a flexible, effective tool that will increase test consistency and accuracy within your vehicle testing environment.

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At a Glance

- *VET AutoTester provides the ability to electronically test a vehicle without electronic testing experience*
- *Resolves warranty issues before they reach the customer*

