VOLVO TRUCKS NORTH AMERICA

Automotive

Electronics/Embedded Systems

ALTEN ADDED VALUE

Provided extensive background in braking vehicle control system testing and root-cause analysis

Responsible for hardware-in-the-loop (HIL) system modeling and test case development for brake and ECS rig with MATLAB and dSPACE

Provided comprehensive background in chassis component design and release process on-site to develop CAD design solutions for product issue logs (PILs)

Provided support to reduce the number of PILs from over 100 to a streamlined count of 81 within a single month of service

KEY TOOLS & TECHNOLOGIES

MATLAB, dSPACE, Engineering Tools, CANalyzer, Protom, Creo, PDMLink, KOLA, Jira

KEY DATA

Team Size: 4 Engineers On-site
Time: Since July 2023
Location: Greensboro, NC
Work Package

ALTEN TECHNOLOGY

BRAKING VEHICLE CONTROLS SYSTEM (VCS)

OVERVIEW

Because of the expanded scope of product development efforts and several major projects running concurrently, the Volvo Chassis Engineering **Braking Vehicle Control Systems** division needed additional resources. These new resources have been primarily dedicated to technical troubleshooting and analysis of Class 8 braking systems, encompassing **ABS, EBS, AMS, and ESC systems**, as well as **hardware-in-the-loop (HIL)** development.

PROJECT DETAILS

- Conducted in-depth root-cause analysis on product issue logs (PILs)
- Utilized **CANalyzer** to retrieve test truck log data and performed an extensive analysis of the brake function based on the test results
- Conducted **electronic control system (ECS) calibration** on SVAT prototype trucks by using Engineering Tools
- Developed HIL system modeling functions, including **XBR, Diff-lock, and Hill Assist** using MATLAB and dSPACE
- Crafted comprehensive test cases for various HIL functions
- Developed design solutions to solve the VCS component issue that was found during testing
- Released new design solution (**CAD, drawing, KOLA I2V**) for PILs