



Jacobs Vehicle Systems / Cummins

Leveraging IIoT for Process Control and Traceability

Industry

Automotive

Challenge

No real-time data or predictive analytics

Solution

Real-time access to a Performance Analysis Chart using ShopVue's Direct Machine Interface

Results

A guaranteed defect rate of less than 50 ppm
Continued compliance with stringent IATF 16949
Robust traceability with serialized part genealogy
Significant new business that supported the opening of its first European factory

A market and technological leader to the global trucking industry, Jacobs Vehicle Systems (JVS), part of the Cummins family, is the pioneer of the compression release engine brake (known as a Jake Brake). Cummins is known for continuously raising levels of performance, power, and fuel economy while reducing emissions for heavy-duty commercial fleets.

“All of our new assembly modules in the future will be fully IIoT capable, both automated lines and those where it makes sense to use more human capital.

ShopVue and its Direct Machine Interface enables the collection of massive amounts of data and drives the enforcement of process control.”

Dave Biron, Director, Quality & Reliability

Challenge

JVS / Cummins has multiple locations in different countries and would like to use Manufacturing Execution Software (MES) that collects more data. The team wants to continuously improve the assembly lines and leverage IIoT for a digital Performance Analysis Chart (PAC).

Solution

JVS uses ShopVue's Direct Machine Interface (DMI) and Production Traceability software and automatically captures inspection data with IIoT devices at each station against serialized parts.

They now process approximately thirty data points per serialized part at each operation in assembly processes. Linear Distance cameras and electronic torque wrenches automatically collect critical parameters, comparing each to the design specifications and controlling the production line to enforce quality control.



“Our customers also insist on complete part genealogy and ShopVue delivers this seamlessly without the manual and unscientific processes that were previously used.”

Dave Biron

Results

ShopVue records millions of data points each month which are used to enforce production sequences. This same IIoT technology and process control is also running within fully-automated high-speed machines at JVS.

Lanco Integrated Machines at Jacobs use ShopVue to produce one engine brake every nine seconds.

In JVS' Bloomfield facility, their MES is delivering process control in automated work centers as well as manual assembly lines.

JVS leverages IIoT and predictive analytics to anticipate issues before they halt line production.

Knowing when to pause the line to retool, make inline adjustments, or identify suspicious lots from a part supplier are just some of the benefits that ShopVue MES provides the JVS team.