

Case Study:

ENHANCING TRACEABILITY IN THE AUTOMOTIVE INDUSTRY - MES SUCCESS STORY WITH ACCEVO

Introduction:

The Automotive Industry and MES

- This case study examines Accevo approach to implementing an MES system at a top automotive LPG tank manufacturer.
- The focus is on manufacturing processes for improved efficiency and quality control.
- Traceability is a critical challenge for MES implementations in automotive manufacturing.

Customer's Needs and Goals:

The Company identified several key areas for improvement through the integration of an MES system:

- Real-time Production Monitoring: Keep a constant eye on production for informed decision-making.
- Traceability: Track materials and tools to validate products.
- Quality Gates: Ensure each step aligns with the plan.
- Automated Testing: Streamline tests with PLC automation.
- Operator Guidance: Aid operators in quality control.
- Defect Handling and SPC Reports: Manage defects, automate SPC reports for cost savings.

Solutions Implemented by Accevo :

Accevo tackled these challenges through a series of comprehensive solutions:

- Improved Machine Connectivity: Enhanced machine connectivity was achieved through various control types for different machines.
 - Siemens S7-400 PLC Integration: Integrated trimming and stamping presses for crucial process data collection.
 - OPC UA Welding Robot Integration: Seamlessly connected welding robots with OPC UA.
 - Signal Duplication for Spinning Machines: Duplicated signals using MOXA ioLogik with I/O inputs for spinning machines.
 - Dedicated Welding Machine Integration: Integrated welding machines via TCP to monitor key parameters.
 - PLC Integration for Hydrostatic Testing Machines: Automated hydrostatic testing with PLC integration for precise control.
 - Testing Station Integration: Linked cleaning and helium testing stations with visual testing records.
- Operator Panels and Barcode Scanners: Each work center was equipped with an operator panel and barcode scanner, enabling data collection for traceability.
- Real-time OEE Calculation: The MES system calculates real-time OEE and its factors (availability, performance, and quality), with automatic production reports.
- Operator Guidance: Operators are guided step-by-step through production and quality processes using the Accevo activities module.

Benefits of traceability in the Automotive Industry:

As you can see, there are a wide range of benefits that come with traceability in the automotive industry. These include, but are by no means limited to, the following:

95%

reduction in dispatching tanks with errors, minimizing waste

15%

quicker IATF audits, saving time for both auditors and operators

15min.

machine availability increases per shift, enhancing overall productivity

2000

the number of tank production volumes increases per quarter, translating into higher profitability

If you are looking to implement improvements in your business and are looking for a proven solution for your industry, contact Accevo.