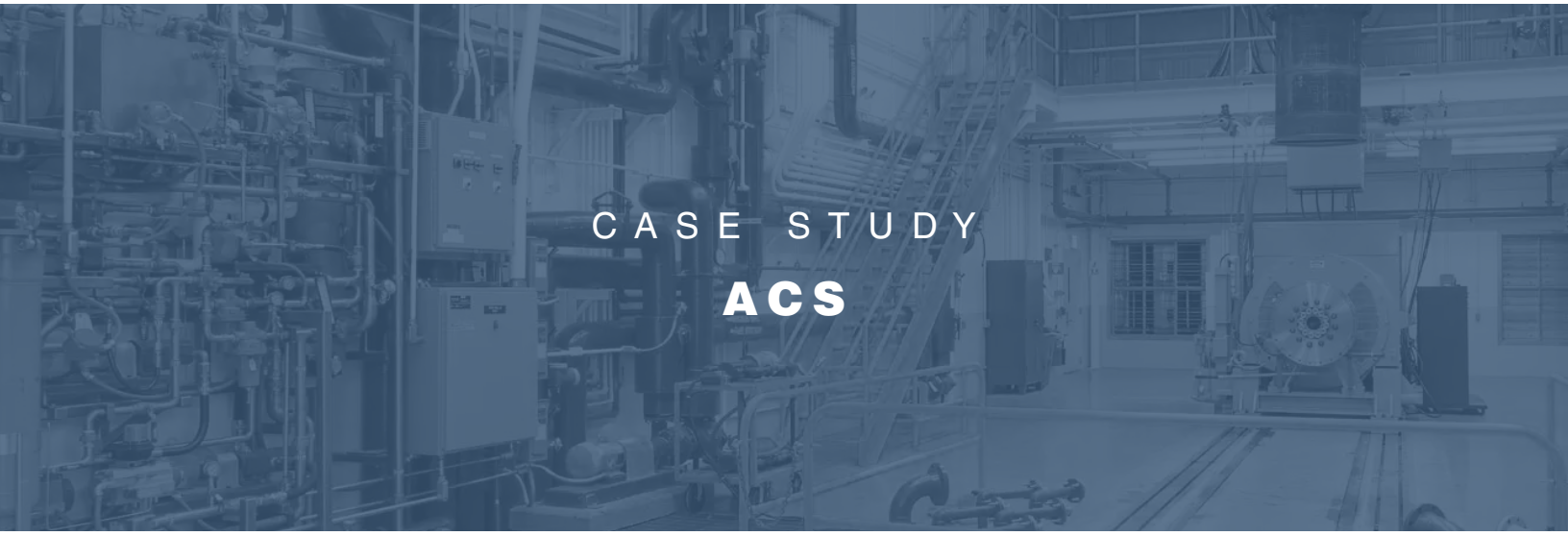
MITSUBISHI ELECTRIC
Changes for the Better

Quality ♦ Performance ♦ Compatibility



CASE STUDY

ACS

Time for a Change

When the PC-based controls on their grease metering and monitoring systems began showing their age, a leading semi-trailer manufacturer knew it was time for a change. Every time the control system failed, the operators would have to get in there with a manual grease gun and flow meter and pump the grease out of a barrel. Then, they'd have to fill out traceability and quality control forms the old fashioned way—with pen and paper. This opened the door to human error.

The downtime issues seriously hampered productivity and eroded profits. The data issues put the company at risk. If there were future problems with the axles, there would be no way to verify that the right amount and right type of grease had been applied in production. In addition, the person that created the PC-based control system was no longer with the company, so no one knew how to maintain it.

ACS
ENGINEER • INTEGRATE • BUILD

MELSEC iQ-F series

A leading semi-trailer manufacturer specified Mitsubishi Electric PLCs because of the high performance to cost ratio and ease of use.

Looking for a Smooth Implementation

The manufacturer knew exactly what they wanted when they began the request for proposal (RFP) process. They were looking for a systems integrator that could get the job done with no interference to planned production across three plants in three cities. They wanted to:

- **Replace the PC-based control system** with a programmable logic controller (PLC) system
  - They specified Mitsubishi Electric for the main PLC and the Manufacturing Execution System (MES) PLC.
- **Upgrade the Microsoft® Access relational database** to a Microsoft SQL relational database
  - They wanted a faster, more powerful and user-friendly database.
- **Ensure identical HMI functionality** for the new control system
  - They wanted the operation of the new control system to function as closely as possible to the previous system, so the transition from the old to the new would be as seamless as possible for operators.
- **Integrate controls with existing instrumentation and mechanical systems**
  - The flow meters, solenoid valves, drum level switches, stack lights, etc. would all remain the same.

Standardizing on Quality, Performance and Compatibility

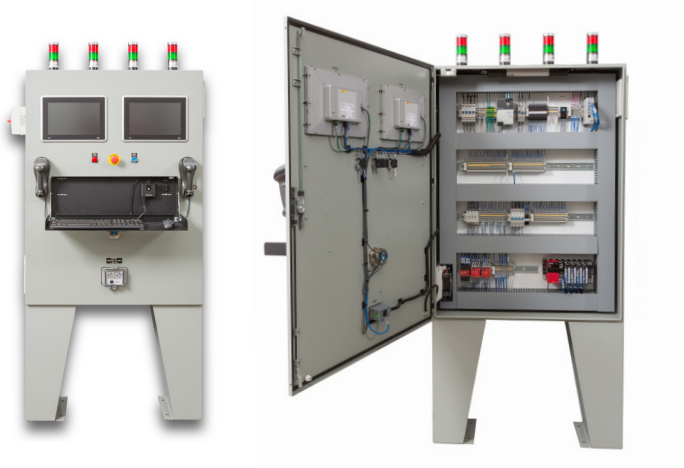
Why did the manufacturer specify Mitsubishi Electric PLCs? About four years earlier, they decided to use only one PLC supplier. They wanted all of their maintenance personnel trained on one in-house standard. They decided to go one hundred percent Mitsubishi Electric PLCs because of the:

- Component quality
- High performance
- Lower cost of ownership
- Backward compatibility and
- Product availability

The manufacturer has had a great, twenty-three year relationship with Tri-Phase Automation, their Mitsubishi Electric distributor. Tri-Phase recommended that the manufacturer give ACS the opportunity to engineer the three new process control systems. ACS is a 'hands-on to hand-over' system integrator in Verona, Wisconsin. They have worked with Mitsubishi Electric components for more than four years.

As Tri-Phase expected, ACS won the job and—using a proven custom equipment process—delivered the three new control systems without a hitch. Each new system has a NEMA 12 industrial control panel, which houses the main PLC, HMI, and control components for the grease metering and dispensing lines. A Manufacturing Execution System (MES) PLC sends and retrieves data to external sources, including databases, MES system, etc.

The process control system upgrade was made without any interference to planned production across three plants in three cities.



The new control systems have been problem-free and doing exactly what they wanted it to do. Their top-of-the-line Mitsubishi Electric PLCs are known for industry-leading reliability and uptime and have performed as expected, delivering consistent product quality and data capture across all three plants.

Reducing Downtime and Improving Data Capture

ACS also put in a new barcode scanner that eliminated the need to manually enter any data at all. They were even able to program the PLC to replace a batch of oil when the grease runs out mid-fill without having any data corruption or data loss and without having to send a manual fill sheet. And at one plant, they were able to have two grease guns run simultaneously instead of one at a time, as it had to with the old system. This has been a real productivity booster.

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Another noteworthy benefit? The manufacturer no longer needs to rely on one individual to maintain the grease metering and monitoring control systems. Because they've standardized on Mitsubishi Electric PLCs, they have many people who can program and troubleshoot the controllers. And they know that when they're ready to upgrade their PLCs, the migration will be cost-effective and easy.

ACS
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Learn more about ACS:
acscm.com

AUTOMATION SOLUTION INGREDIENTS

Main PLC

- MELSEC-F (FX) Series FX5U Starter Kit

MES PLC

- MELSEC iQ-R Series MES Interface Module (RD81MES96)
- MELSEC iQ-R Series Sequencer CPU (R04CPU)
- MELSEC iQ-R Series Base Unit (R35B)
- MELSEC iQ-R Series Power Supply Unit (R6IP)

NEXT STEPS

For more information or a free consultation with an automation engineer, please

> Connect with Us

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