

# DIGITAL FACTORY *now*



## Open control system improves quality at an affordable price

### Highlights

- An automotive manufacturer was having quality issues with its welding process
- The original technology did not have the monitoring capabilities the manufacturer wanted, but at the same time, the manufacturer wanted to avoid “vendor lock”
- PLCnext Technology was affordable and easy to implement
- Because the technology uses open-source programming languages and has Node-RED capability, the manufacturer did not have to lock in with a single vendor

“The openness of PLCnext Technology was critical to this application.”

### Customer profile

This automotive supplier manufactures metal frame and suspension components for automotive manufacturers.

### Challenge: Welding quality issues

The manufacturer was having quality issues with a welding process. The existing technology deployed at the plant was not sufficient to monitor and produce the quality required. To avoid “vendor lock,” the customer did not want to use any proprietary systems. They needed support for the use of open-source, edge-driven, IIoT-based architecture.

### Solution: IIoT-ready controller

The manufacturer selected PLCnext Technology because of its openness. The system uses the PLCnext 2152 controller as the edge device in the network architecture.

The customer used an IIoT software stack to deploy a program that takes existing machine data and sends it to Amazon Web Services via MQTT. This data, along with a camera feed pointed at the manufactured parts, allows the customer to use machine learning and artificial intelligence to inspect every weld visually. They can also program offsets and weld data to the existing operation. This process incrementally increases the quality of the part and creates a continuous improvement loop.

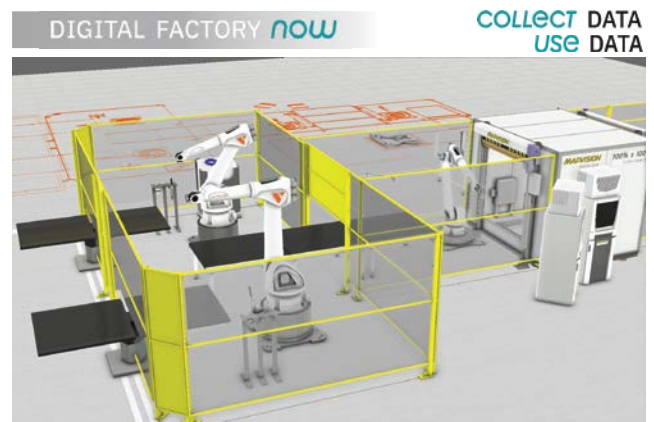


Figure 1: Production area – robotic weld cell

## Results: Better data and more flexibility at a low cost

The openness of PLCnext Technology was critical to this application. The low-cost solution included free software development tools, open-source programming languages, Node-RED capability, and cloud connection—all valuable features to the customer. The manufacturer has better access to data, more flexibility, and easy integration into existing systems with the license-free control platform.

Through open-source technology, the manufacturer avoided vendor lock while improving the inspection of its welding process.

