MITSUBISHI ELECTRIC
Changes for the Better

Automating the World

FACTORY AUTOMATION

Customer Reference

Mitsubishi Electric Automotive Czech: The factory that thinks

How connected production data enables smarter decisions, improved quality, reduced downtime, and better workplace performance

Key points

- **100+ connected machines:** real-time production data drives daily decisions
- **Improved visibility:** supporting faster troubleshooting and less downtime
- **Continuous optimisation:** enhancing quality, ergonomics, and energy performance

Mitsubishi Electric Automotive Czech (MEAC), a subsidiary of Mitsubishi Electric Corporation, has been operating since 2000 and supplies automotive components across the European market. With advanced production facilities and a strong focus on innovation and digitalisation, the plant connects hundreds of machines and uses data to support daily operational decisions on the shop floor.

The Challenge: Modern manufacturing is no longer just about automation - it is about the ability to capture, connect, and act on data in real time.
The key challenge was to translate growing volumes of production data into meaningful improvements in performance. This includes higher output, better quality, lower energy use, and more efficient day-to-day operations.
At the same time, production systems already in place were stable and proven, operating reliably for over 10 years. The objective was therefore not to replace what already works, but to enhance it - without disrupting ongoing operations.
This required a practical approach: unlocking the value of data while maintaining consistency, stability, and continuous production.

The Solution: The approach focused on keeping what already works and extending its capabilities through data. A data layer was introduced using MES interfaces to connect machines and enable analytics without disrupting production. More than 100 machines were connected, creating a foundation for continuous improvement based on real production data. This enabled MEAC to optimise processes without replacing existing systems, introduce connectivity where it delivered measurable benefits, and provide engineers with the visibility needed to make faster and more informed operational decisions.

The Results: The implementation delivered measurable improvements in production performance. Better visibility into operations enabled faster troubleshooting and helped reduce downtime, while detailed production data supported process optimisation and defect analysis to improve product quality. By identifying opportunities for improvement, MEAC was also able to reduce scrap and lower

manufacturing costs. At the same time, data-driven management contributed to more stable and consistent performance across shifts. As a result, data became an active tool for driving operational improvements rather than simply reporting on them.

Why it matters: At MEAC, data is not collected simply for reporting purposes. Instead, it serves as the basis for daily operational decisions that help reduce downtime, stabilise quality, and keep production running efficiently. Engineers use production insights to identify opportunities for improvement and respond more quickly when issues occur.
The connected environment enables teams to move beyond reactive problem-solving. With visibility across production processes, decisions can be based on real operating conditions rather than assumptions. This approach supports continuous improvement while ensuring that changes deliver measurable value on the shop floor.

Engineers also play an active role in developing the system. They create their own reports, introduce additional sensors where greater visibility is required, and even adapt PLC logic to meet evolving production needs. This flexibility allows the factory to continuously refine processes and improve performance over time.

Looking ahead: The concept of a factory that thinks extends beyond machines and production equipment. MEAC also uses data to improve working conditions and support sustainability objectives. RFID-based operator identification combined with workstation-level information provides greater visibility into how work is organised across the facility.
This information is used to optimise job rotation and reduce ergonomic strain, helping to create a safer and more sustainable working environment. As a result, the factory has achieved more consistent performance across shifts while supporting employee wellbeing.
The same philosophy is applied to facility management. Data from HVAC systems, cooling infrastructure, and technical utilities is monitored to support energy performance and operational efficiency. By treating both the building and the production process as data sources, MEAC is able to improve output, quality, uptime, and energy performance through a single connected approach.

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