

Case Study

Innovating how the production floor works



Car parts manufacturer redesigns the way it works on the production floor with innovative mobile strategy

Business situation

It may come as a surprise that a car's front-end bumper and all of its related components takes a complex journey before it becomes part of a finished vehicle—and that each step requires a carefully choreographed series of events on an assembly line.

An issue encountered at any step of the manufacturing process can set off a chain of disruptive events resulting in costly delays, inefficiencies and production challenges.

Our customer, a leading car manufacturer of these front-end bumper and surrounding components (collectively known as fascia) knows the challenges of just-in-time manufacturing all-too-well. With hundreds of fascia coming off its assembly line each day, the manufacturer sought a way to improve the way in which it addresses—and resolves—issues on the production floor.

The goal? Our customer aimed to lower assembly line issues overall and create a more efficient, automated process for handling problems so that production runs more smoothly. It also envisioned using innovative mobile tools to empower production supervisors and alert decision makers on trends that could signal potentially larger production issues.

Results delivered: A fully transformed assembly line process

Avanade's Work Redesigned strategy helps enterprises transform how work is executed to improve agility, respond faster to market

changes, and delight customers. Working together, we leveraged an innovative approach to solve some old issues associated with the manufacturing process, which still heavily relies on human intervention even in light of robotics and automation advances. The customer has realized numerous results, including:

- **Cutting-edge mobile functionality** that allows assembly line supervisors to automate previously manual processes associated with issues in production—right down to each individual fascia. This visibility and immediate problem-solving capabilities make the assembly line more efficient and reduce the overall number of delays.
- **Real-time information** that alerts decision makers on the production line when an issue occurs on the assembly line, provides more background information on the problem, and why it occurred. This information enables decision makers to resolve production problems faster—and identify trends around key issues that can be proactively addressed to minimize assembly line delays.
- **Lower costs** resulting from the use of more automated processes that result in fewer production delays. These delays are costly for this manufacturer—and for the car manufacturers that rely on their parts to produce their vehicles. By automating the process, our customer expects to significantly lower cost associated with assembly line complications.
- **A more efficient way to work that aligns** mobile technology within existing business processes. This has helped this manufacturer improve efficiencies without changing the fundamental way in which workers performed their jobs, requiring less change management overall, but still resulting in significant impact.

The Work Redesigned difference

- Bill, the assembly line production manager, is able to use his mobile device to override alerts on fascia that are flagged as having issues when, after inspection, they do not. This empowers Bill to make fast decisions and keep the assembly line moving.
- Mary, the CIO, can leverage the information from the mobile devices used on the plant floor to assess issues that are logged with the mobile application and how they were resolved. This information makes her business decisions much more well-informed, resulting in higher transparency overall.
- John, the delivery truck driver, doesn't have to return to the plant when the fascia he is scheduled to pick up are delayed off the assembly line due to an unanticipated issue. He can deliver the fascia back to his own car manufacturer's plant on time—and that results in his employer meeting their timelines.



Work Redesigned: a strategy for seizing new opportunities.
www.avanade.com/workredesigned

Case Study

Auto parts manufacturer



The inside story: Using mobility to innovate the assembly line

Avanade worked with this manufacturer to understand its existing business challenges and craft a roadmap that could transform its existing assembly line processes. These processes, which leverage an age-old manufacturing approach known as Andon, rely on a series of red and green lights to signal the status of production on the assembly line.

The first Andons were simple lights that enabled operators to signal line status based on color: green for normal operation; yellow when assistance was needed; and red when the line was down. Today, more sophisticated visual displays are often used for Andons, but their purpose remains the same.

The challenge with this approach is that the process still relies on human intervention, which results in a higher likelihood of error, time-consuming interventions and follow-up. In addition, everything that happens to resolve an issue once a light is illuminated happens with supervisors on the plant floor—and precious seconds can make the difference between a fascia reaching its destination or missing the delivery truck.

This manufacturer sought to use mobile technology to leverage the same manufacturing process, but fully automate resolution workflows behind-the-scenes. To do this, it uses mobile phones enabled with bar code scanners. Each fascia coming off the line is equipped with a bar code. When scanned, assembly line workers have immediate information about that part, empowering them to make more informed—and more immediate—decisions about what to do next.

A key facet of this mobile innovation is its ability to automate four key areas of previously manual processes, including:

- **Mobile sign-on.** This gives users the ability to subscribe to shop floor events based on their assembly line and work shift, providing a customized and relevant view.
- **Override capabilities.** This provides the ability to receive notification on a mobile device when an override event is triggered on the assembly line, and provides relevant information that enable

supervisors to immediately accept or reject the part.

- **Andon (issue) alerts.** This notifies, via mobile device, when an Andon event is triggered on the assembly line.
- **Kanban (part shortage) alert.** This notifies, via mobile device, when there is a part shortage on the assembly line, allowing supervisors to address the issue immediately.

A Look to the Future

The deployment of mobile technology on the assembly line floor is a first step towards improving efficiencies plant-wide. Avanade continues to work with our customer to identify other opportunities in which work can be redesigned to reduce costs, improve productivity and streamline processes.

For more information:

www.avanade.com/workredesigned



About Avanade

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