

## Case Study: Manufacturing

# Automaker Accelerates Process Agility

Digital solution helps manufacturer streamline management of parts shortages, dramatically cutting cycle time and waste while safeguarding production.

When it comes to manufacturing automobiles, few things are more critical than ensuring the production line has the right parts at the right time. However, managing parts shortages has proven a stubborn problem - even for the largest and most sophisticated automakers.

One of the largest global car companies, known for its manufacturing excellence, recently partnered with Cognizant to develop a digital solution for managing parts shortages. The system replaced a highly manual process that was inefficient and often inaccurate. The project drove major benefits for the car company, including an impressive 50% drop in parts shortages and significant cost savings

## At a glance

We developed a comprehensive, role-based digital parts shortage management (PSM) system to replace a large automaker's long-standing manual process.

## Outcomes

- Plant floor parts shortages dropped by 50%
- A 100% reduction in the number of shortage parts ordered
- A 30% drop in parts shortages at the part-ordering center
- \$2 million in cost savings after the first phase
- Ability to distinguish between real parts shortages and false positives
- Better visibility for decision-making by plant managers and team leaders
- Parts-shortage information can be stored, driving future insights

## The Perennial Problem of Parts Shortages

The automaker originally used a largely manual parts shortage management (PSM) process to keep the disruption of production to a minimum, if at all, due to parts shortages. The PSM process also supported parts-ordering specialists in recording and validating part requests from line supervisors. Once approved, the request was replenished on demand.

However, it was difficult for staff to order necessary parts on time due to: (1) a lack of real-time visibility into parts shortages, (2) multiple manual checkpoints and (3) redundant information. The situation was inefficient and prone to mistakes that could lead to potential costly disruptions of the production line.

The automaker understood its existing PSM process was not providing precise part information or the required efficiency to respond to and prevent line disruptions. Relying on traditional methods meant the automaker was falling far below operational excellence.

## Challenges in the Manual Process

The manual PSM process fell short in a variety of ways:

- The parts-ordering process was manual and time consuming
- The automaker lacked insightful tools to predict impending parts shortages
- The lack of an enterprise standard led to each plant having its own independent version of the PSM process
- Personnel struggled to obtain clear and precise part information
- There was a lack of consolidated information for developing insights or to conduct investigations
- The cost of holding inventory to accommodate shortages was high
- Lack of communication between the parts-ordering center and the shop floor led to

increased costs of parts being ordered that were not actually needed

- There was no accountability or consequential action to be taken in the case of over-consumption or inventory of parts

Relying on traditional methods did not drive the desired operational excellence, so the automaker engaged us to assess its current PSM process and bring a new digital solution to the table to optimize parts shortage management.

## The Digital Parts Management Platform

Based on the assessment findings, we developed a strategy that paved the way for the largest global digital platform rollout to date for the automotive manufacturer. The solution coupled advanced technology and analytics to improve parts-ordering efficiency, provide accountability for operations and drive meaningful insights to support decision-making.

The digital parts platform features a mobile-based app for team leaders and a desktop application for parts-ordering specialists.

Aimed at team leaders, the mobile app features offered the ability to:

- **View part availability.** The team leader can search the availability of a part on the line side and in the plant's inventory. This helps the team leader understand if there is a part runout
- **View runout information.** The team leader can also check if there is a possible part shortage across the plant by submitting an inquiry after scanning the specific part or by entering the part number
- **Enter part shortage information.** In case of a part shortage, the team leader can create a part order request directly on the mobile app. This is an improvement over the bottleneck created by the manual PSM process
- **Identify true shortages vs. false alarms.** Team leaders have the ability to determine whether a part order should or should not be placed based

on the line-side runout information provided for the part

- **Track delivery of the part to line side.** The app also provides the team leader the flexibility to select where to locate the part based on availability data in different locations. Once the part is picked up, the app allows the team leader to track the part from its origin to line side while providing the expected time of arrival (ETA) for each part order

The desktop application allows the parts-ordering specialist several capabilities:

- **View the list of tickets,** in order of priority, displayed in the homepage of the application in Parts Ordering view. This helps ensure the specialist processes high-priority orders first
- **View and analyze detailed information for each part order** by plant, line, supplier, dock, Kanban, status date/time and order status
- **View and track details for each part,** including shortage information, part availability, order history and usage vs. receipt data

## Digital Solution Architecture

We built the solution on PEGA 7 to provide performance monitoring tools and system management features. The platform features a user-friendly design with an intuitive and responsive interface to optimize engagement and experience.

The solution features a built-in service across all channels for communication of business activity monitoring (BAM) reports and dashboards, and reusable business and infrastructure components.

## Measuring Success

The automaker has enjoyed significant improvements from its deployment of the digital PSM solution, including:

- A 50% decrease in plant floor parts shortages
- A 100% reduction in the number of shortage parts ordered
- A 30% decrease in parts shortages at the parts-ordering center
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- With new access to digital information, key decision makers are able to develop operational intelligence which can be leveraged in decision-making
- The overall cost savings after the first phase launch was close to \$2 million

The automaker has plans to use this project to catalyze future digital factory initiatives, leading to greater efficiency and resilience to business disruptions.

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## About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 194 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at [www.cognizant.com](http://www.cognizant.com) or follow us [@Cognizant](https://twitter.com/Cognizant).

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