



AUTOMAKER ACCELERATES PROCESS AGILITY

Digital solution helps manufacturer streamline its parts shortage management process, 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. But 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 engaged 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 system to replace a large automaker's long-standing manual processes.

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.
- \$2,000,000 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 had long used a largely manual parts shortage management (PSM) process to aid its shop floor team leaders and plant managers in ensuring their production line operated with minimal or zero stoppages resulting from the shortage of parts. The PSM process also supported parts-ordering specialists in recording and validating the part request from the line supervisors and then replenishing the request on demand.

But a lack of real-time visibility into parts shortages coupled with multiple manual process checkpoints and redundant information made it difficult for staff to order the parts on time. The situation was inefficient and prone to mistakes that could lead to potentially costly disruptions of the production line.

The automaker understood its existing PSM process was not providing precise part information or the agility necessary 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 processes to request the needed part fell short in a variety of ways:

- The parts-ordering process was manual and time consuming.
- The automaker lacked “intelligent” tools to predict impending parts shortages.
- There was no enterprise standard. Each plant had 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 hedge against shortages was high.
- Communication between the part-ordering center and the shop floor was lacking, leading to increased costs of parts being ordered that were not actually needed.
- There was no accountability or identification of consequential action to be taken in the case of over-consumption or quarantine of parts.

Relying on traditional methods did not drive the desired operational excellence, so the automaker engaged us to assess its current PSM processes and bring to the table a new digital solution 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 an advanced technology and analytics platform to improve part-ordering agility, 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 include:

- **View part availability.** The team leader can search the availability of a part both 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 the 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, an improvement over the bottleneck created by the manual part-ordering process in the previous PSM process.
- **Identify true shortages vs. false alarms.** Team leaders have the ability to determine whether a part order should be placed or not based on the line-side runout information provided for the part.
- **Track delivery of the part to line-side.** The app also provides the flexibility to the team leader to select where to pick the part from based on part 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 and also provides the expected time of arrival (ETA) for each part order.

The desktop application allows the part-ordering specialist a number of 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 for the part, and usage vs. receipt data.

DIGITAL SOLUTION ARCHITECTURE

We built the solution on Pega7 to provide performance-monitoring tools and system management features. The platform features an easy-to-use design with an intuitive and responsive user interface to optimize user engagement and experience.

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

MEASURING SUCCESS

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

- 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.
- With new access to digital information, key decision makers are able to develop operational intelligence to be leveraged in decision-making.
- The overall cost savings after the first phase launch was close to \$2,000,000.

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

For more information, visit <https://www.cognizant.com/manufacturing-technology-solutions/automotive-it-services>.

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 195 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 or follow us @Cognizant.



World Headquarters

500 Frank W. Burr Blvd.
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233
Fax: +1 201 801 0243
Toll Free: +1 888 937 3277

European Headquarters

1 Kingdom Street
Paddington Central
London W2 6BD England
Phone: +44 (0) 20 7297 7600
Fax: +44 (0) 20 7121 0102

India Operations Headquarters

#5/535 Old Mahabalipuram Road
Okkiyam Pettai, Thoraipakkam
Chennai, 600 096 India
Phone: +91 (0) 44 4209 6000
Fax: +91 (0) 44 4209 6060

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