BorgWarner Data Communications Technology Reboot

BorgWarner is a global automotive parts supplier based in Auburn Hills, Michigan. The company is committed to “creating technologies to improve efficiency, emissions, and performance in all types of vehicles.” Products include automatic and manual transmissions, engine timing systems, starters and alternators, and more. From more than 60 manufacturing facilities worldwide, BorgWarner delivers solutions for combustion, hybrid, and electric cars alike.

Windemuller recently had the privilege of working with BorgWarner at the company’s manufacturing facility in Cadillac, Michigan. The basis of the project was data communications work. Over the course of 20 or 25 years, the computer and network cabling at BorgWarner’s Cadillac plant had become a confusing mess. The company hired Windemuller to come in, design new cable tray routes throughout the facility, and then re-cable everything using the new routes.

Project

Communications Technology Reboot BorgWarner

Industry

- Industrial

Primary Service

- Information Technology

Details

- **Contract Value:** $99,999
- **Location:** Cadillac, Michigan
- **Started:** May 2018
- **Completed:** August 2018

The Challenge

The main challenges of the job were the scope of the work, the lack of downtime at the facility, and the tight project deadline. These factors combined to create a logistical minefield for Windemuller’s teams and demanded detailed planning for every facet of the project.

The job was essentially a total re-cabling project for the entire manufacturing facility. Windemuller started with the backbone for the building’s local area network: the main distribution frame (MDF) and the fiber optic cabling running out of it. We completely redid all the fiber optic cabling in the facility, upgrading BorgWarner from 62.5-micron multi-mode optical fiber to newer OM4 50-micron

fiber. This update will yield significantly improved network bandwidth for the entire BorgWarner facility.

From there, Windemuller completely re-cabled all the network equipment in the plant. We ran fiber optic cable from the MDF to various intermediate distribution frames (IDFs) throughout the facility. We also consolidated several IDF locations—and built a few new ones—to simplify the network design for the facility. This strategy cleaned up much of the messy cabling throughout the plant while also ensuring fresh cable for every system that touches the network—from plant floor computers to security cameras.

The sheer scope of the project meant there was no part of the facility network that Windemuller didn't touch. Since BorgWarner's Cadillac plant is a very busy facility that relies heavily on a working network, we did not have the option of shutting the network down to pull cable or to build and consolidate IDFs. Instead, we worked around the schedules of the various crews on the plant floor to find times to transfer them over to the new cabling—without downtime.

We had a tight timeframe necessitated by a fast-approaching deadline. We had a lot of work to do and not much time in which to do it.

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The Solution

Working closely with the various groups within the building, Windemuller was able to build a project schedule based on when certain crews could be without their designated network devices. In some cases, that was lunchtime. In other cases, it was between shift changes, or on Sunday afternoons when the plant was mostly or completely shut down. The schedule helped us strategize, but it was ultimately the flexibility of our own Windemuller employees that made this project possible. Our team was willing to work longer hours and start processes at odd times during the

day to accommodate tricky scheduling. Their “can do” attitude shaped the project and allowed us to get the work done on schedule without inconvenient network downtime.

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