

Case Study | Metal Manufacturing



Increasing Safety and Efficiency with Orchestrate Workflow Automation and Unified Communications from Motorola Solutions

Overview | Industrial Manufacturing Requires Large-Scale Facilities and Security

In southwestern Kentucky, one organization stands as an industrial manufacturing powerhouse and a pioneer in technological innovation. It currently manufactures almost half of the aluminum sheet products in the USA and holds the distinction of being the largest employer in its county, with a workforce of approximately 1,500 individuals spread across seven operational units, all located within an extensive 1,110-acre campus.

Operating on such a grand scale, the plant's security team routinely faces the challenges posed by potentially hazardous machinery and chemicals. Additionally, they must manage the presence of numerous contractors, employees, and incoming deliveries. Given the inherent risks associated with the plant's operations, safety and security and the continuous maintenance of the systems supporting them are of utmost importance.

Challenges | Poor Coverage, Outdated Systems, and Incompatible Technology

Inadequate Radio Coverage | With a sprawling 30-acre facility with a metal roof, noise-producing equipment, concrete tunnels, and pits, the organization faced communication challenges due to insufficient radio coverage. Although they had an existing radio system, it proved unreliable within such a complex environment. The company installed multiple radio signal repeaters across the plant to compensate for coverage gaps. However, maintaining this system was arduous, and problems persisted. Reliable communication was necessary for large manufacturing operations, where any lapses could directly impact safety, security, and productivity.

Outdated Video Systems | With such a large campus, the company heavily relies on a network of video cameras for security and operational monitoring. This includes tracking deliveries, visitors, contractors, and employees throughout the plant. Unfortunately, their existing camera system required hardwiring, limiting their placement options and resulting in critical blind spots. Security personnel had to patrol these areas, consuming time and resources manually. Furthermore, the image quality could have been better, and reviewing and analyzing footage required a tedious, manual process, hindering their ability to address issues proactively.

Disparate Technologies | The company grappled with many security technologies, including radios, cameras, access control systems, and sensors. They recognized the need for a solution to seamlessly integrate these disparate components into a unified system, enhancing their effectiveness. Also, the company aimed to future-proof its security infrastructure, seeking an ecosystem to facilitate the incorporation of additional components and solutions when needed. The Head of Loss Prevention stated, "We needed something that would last and grow with us. You have to build the foundation right, so we decided from the start that an integrated system is the path we would go on."

Industry Overview

- Manufacturing & Production
- Aluminum Processing

Featured Solutions

- Nitro™ Private Broadband
- Avigilon Cameras with AI & LPR
- MOTOTRBO™ XPR & Ion Radios
- MOTOTRBO™ CapMax LMR
- Orchestrate & Wave PTX Software

Benefits Observed

- Seamless Radio Coverage
- Extensive Broadband Data
- AI-Enhanced Security Monitoring
- Streamlined Workflows
- Instant Situational Awareness



The Solution | An Integrated Motorola Solutions Ecosystem

In unanimous agreement, the Head of Loss Prevention (HLP), Communications System Administrator (CSA), and each of their teams recognized the need for a modern and all-encompassing technology ecosystem to enhance plant safety, security, and operational efficiency.

They embarked on a comprehensive evaluation of potential solutions to determine the best fit for the organization's current requirements while remaining flexible and scalable to meet the evolving needs of the business.

The optimal solution for selection needed to address all of the core challenges faced by the company effectively. These included:

The necessity for complete and dependable radio coverage throughout their vast campus

Upgraded video surveillance technology that could offer heightened efficiency and visibility

Ability to seamlessly integrate these tools to tackle intricate security and safety issues more efficiently

Ultimately, the company opted for an integrated technology ecosystem from **Motorola Solutions**, which featured a range of essential components. This selection included:

Motorola Nitro™ Private Broadband

Avigilon Cameras w/AI and LPR

MOTOTRBO™ XPR 7550E, XPR 5550E, and Ion Radios

MOTOTRBO™ Capacity Max Land Mobile Radios

Orchestrate Workflow Automation

WAVE PTX Broadband Push-to-Talk

The Communications Systems Administrator expressed his confidence in the choice, stating, "Motorola Solutions knows their stuff, and they have a phenomenal product. That's really what it came down to for us."



The Results | Clear and Reliable Radio Coverage, Simplified Troubleshooting

With the Motorola Solutions technology ecosystem in place, the company now enjoys a radio system that offers consistent coverage for all employees throughout the extensive campus and beyond. This includes previously problematic areas such as underground spaces and spots that used to suffer from signal dead zones. Notably, the need for repeaters, which had complicated operations, has been eliminated. Following the system's deployment, employees immediately experienced a notable improvement in clarity and coverage.

In contrast to the previous setup, which required repeaters scattered across the campus and within buildings, the company now manages its entire radio system from a single administration building. This centralization means that troubleshooting and resolving any system issues no longer necessitate traversing the entire campus, saving valuable time for more productive tasks. Further, by utilizing WAVE PTX, radio users on campus can seamlessly extend push-to-talk (PTT) functionality to connect with individuals using smartphones, tablets, and computers nationwide. The newfound reliability and immediacy of the communications system have garnered praise from the team.

The company's CSA emphasized the importance of system availability, especially during supply chain disruptions, saying, "Availability is critical, especially these days. 2020 turned everything upside down, and supply chain disruptions make things even more chaotic. Now, when I reach out to someone about an issue, concern, or just a quick question, they speak to me right away."



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Communications System Administrator





Integrated Video Analytics for Enhanced Situational Awareness

The organization's integrated technology ecosystem relies on Avigilon Cameras to deliver the high level of image detail essential for monitoring its 1,100-acre campus. These cameras also feature advanced video analytics, automatically detecting unusual activities and promptly alerting security personnel. Thanks to the new Nitro™ Private Broadband solution, cameras can be placed in various locations without the constraints of hardwiring and trenching.

The cameras provide a comprehensive view of the plant floors, capture license plate numbers across different distances and speeds in the parking lots, and contribute to superior situational awareness and increased operational efficiencies.

Their HLP noted a common issue at the plant, stating that, *"One of the most common problems we experience at the plant is contractors and truckers speeding on our access roads, which is dangerous because of the materials they're handling. We put cameras [on roads] where we couldn't before, thanks to our Avigilon Cameras and Motorola Solutions Nitro Broadband."*

The Results | An Integrated Technology Ecosystem Enhancing Overall Capabilities

By integrating the cameras with the Orchestrate system, security teams receive automatic alerts when the system detects speeding, a license plate on a watch list, or other specified activities. This intelligence extends to investigations, enabling security personnel to conduct searches using simple parameters, significantly reducing the time spent on reviewing footage.

The organization's security team can take a more proactive and strategic approach by integrating advanced analytics with other systems. The Head of Loss Prevention explained, "The government requires us to monitor certain areas of our building 24/7, and thanks to the reliability of the ecosystem, the technology can do some of the work for us, which frees up the security team to survey the plant on foot and look for disturbances or safety concerns. This is a much better use of their time than sitting in one place and operating the system."

Additional benefits include:

Seamless Radio Coverage with Advanced Voice and Data Features

Extensive Broadband Data Reach in Remote Areas, Eliminating the Need for Costly Trenching

AI-Enhanced Video Security Cameras, Delivering Exceptional Video Analytics

Streamlined Automated Workflows and Tailored Alerts for Instant Situational Awareness

About MCA

MCA is one of the largest and most trusted integrators in the United States, offering world-class voice, data, and security solutions that enhance the quality, safety, and productivity of customers, operations, and lives.

More than 65,000 customers trust MCA to provide carefully researched solutions for a safe, secure, and more efficient workplace. As your trusted advisor, we reduce the time and effort needed to research, install, and maintain the right solutions to make your workplace better.

Our team of certified professionals across the U.S.A. deliver a full suite of reliable technologies with a service-first approach. The MCA advantage is our extensive service portfolio to support the solution life-cycle from start to finish.

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www.callmc.com • 844-917-4215 • info@callmc.com