Turn minutes into millions with Lexmark Optra IoT

How a waste management facilities operator combined its existing camera infrastructure with Lexmark's Optra Edge devices to improve site performance and increase ROI.

"Visual data from 100,000+ vehicle movements is managed daily by Optra Edge."

"Optra IoT was delivering valuable site performance metrics in just 90 days."

Why IoT?

Quantifying site performance using data from existing tracking infrastructure gave this national waste management organization metrics to:

- Reduce wait times and eliminate queues
- Improve site throughput and productivity
- Optimize facility layout to add capacity
- Increase revenue

Why Optra IoT?

Lexmark's Optra Edge technology worked with cameras already on-site to capture video data of vehicle movements and turn this into site performance metrics that:

- Integrate with existing camera infrastructure
- Generate quantifiable site data via AI applications
- Provide central visibility of site operations
- Scale easily across multiple facilities

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Read more on how Lexmark helped this national organization quantify the performance of their facility.

Get accurate insights into site performance

This major landfill organization wanted to capture detailed site performance metrics, including logistics turnaround times, to get improved visibility of operations and identify continuous process improvements that could be easily scaled across its U.S.-wide operations.

Defining the challenge

Traffic was backing up at a landfill organization's facilities, causing delays in vehicle throughput and impacting operations. However, no data was available at the time that quantified the scope and scale of the issue, which in turn meant there was no solution to overcome it. Building on an existing relationship, Lexmark was able to bring its understanding of site operations to help define the best way to deliver the relevant data analytics — in the quickest and most cost-effective manner.

"Using existing camera feeds simplified and sped up project outcomes."

Making use of existing infrastructure

By analyzing the current monitoring on-site, Lexmark realized that existing camera infrastructure could be used to avoid the need for large-capital upfront investment. These video feeds of vehicle movements entering and exiting sites could provide the raw data that would in turn generate specific commercial insights, for example on vehicle throughput, waiting times and time spent at check in.

Adding Lexmark's Optra Edge hardware devices to the camera network enabled hi-res video feeds to be captured and processed locally. By transmitting only the relevant data to the management portal for analysis, Lexmark's solution significantly reduced unnecessary network traffic and overcame any bandwidth or low latency issues to maintain uninterrupted data capture.

AI accuracy

Over 100,000 individual vehicle movements needed to be tracked every day. Vehicles using the facility were owned by a number of different operators, and tough environmental conditions meant a single, identifying data source — such as the license plate — could not be relied on to give the level of accuracy required.

Lexmark's AI application capability overcame this data integrity issue. Overlaying existing license plate tracking capability at entry and exit cameras with AI intelligence to capture additional identifying metrics — including make, color and model — created a much higher tracking accuracy, as well as more variables by which to analyze the data.

"The AI capability of Optra Edge improves data quality and accuracy."

Apply Optra IoT site performance data to:

- **Reduce** turnaround times
- **Increase** throughput
- **Eliminate** queues
- **Accelerate** check-in
- **Improve** site layout
- **Manage** peak capacity

Delivering results in 90 days

Optra Edge was the ideal solution. Easily integrated into the current camera hardware and existing cloud management dashboard, it could be quickly up and running — delivering outcomes within 90 days. Once captured, accurate vehicle throughput data is sent to the existing central management portal where it is collated and used to generate insights that quantify site performance. Analyzing this data identifies tangible process improvements — from improving check-in capacity at peak times to reduce wait times, through to adjusting site layout to minimize time spent at the facility and increase vehicle throughput and site productivity.

Central operational visibility

Lexmark's IoT solution was able to successfully deliver corporate-level insights into the performance of the waste management facility, giving improved visibility across operations from a single, central dashboard. This centralized visibility also makes it easier to apply these metrics to identify future continuous improvement projects, such as optimizing site layout.

A scalable solution

Lexmark was able to help quantify the performance at this facility in a scalable way, generating detailed insights that could be used to improve operations more widely. Longer term, the ability to compare site performance and to apply learnings to validate the effectiveness of any changes prior to scaling across various locations will continue to generate value. Lexmark's AI-based solution supports this — making it easy to add further data capabilities, such as site walk-ins and security or inventory theft and fraud, to broaden the monitoring capability.

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