

SOLUTION OVERVIEW

Can Manufacturing

How are we running? A single source of truth for Ball Corporation.

The speed at which cans are manufactured can be dizzying. And the data from shop floor systems is abundant and complex. Acumence has transformed how data is collected and made visible and now provides insights that guide improvements in throughput.

The Challenge



At Ball Corporation, small improvements in efficiency can add up to enormous savings. As one of the world's leading suppliers of innovative, sustainable aluminum packaging solutions for beverage, personal care, and household products; Ball produces tens of billions of cans every year. Even a tiny increase in production efficiency can amount to significant cost savings.

Ball is firmly committed to continuous improvement, so when manufacturing leaders at the company recognized that they could achieve greater efficiencies by modernizing their line monitoring systems, they began to explore options for real-time data collection and analytics.

Ball's past production line monitoring systems were built on older technology. Machine integration was cumbersome, often requiring middleware. The company's existing software lacked flexibility, and its usability was poor. Feedback was limited, consisting primarily of color-coded indicators denoting each machine's operating status. Reporting across multiple lines and plants was disjointed. There were no mechanisms for proactive e-mail notification, and no way to create custom reports.

Ball's line managers needed better visibility to bottlenecks and pending production problems. They wanted to identify potential line issues as early as possible, then to proactively address those concerns before they turned into sizable problems. Others needed better data as well. Environmental compliance officers wanted data on water quality, power consumption, and other important metrics. Quality managers sought to improve defect prevention by monitoring production in real time.

Perhaps most importantly, executive management wanted a single source of truth, with common KPIs and tools across all plants within the EMEA region. By implementing a single, modern system, Ball knew they could do a better job of measuring performance, zeroing in on trouble spots, and optimizing the efficiency of their production processes.



The Solution

Ball selected Flexware Innovation's Acumence product as the foundation for their real-time production monitoring systems. Acumence delivers up-to-the-second status on every machine and process along every production line, giving line managers and operators the precise information, they need to make data-driven decisions throughout the shift.



Acumence brings immediate visibility to what's happening on the line, allowing for prompt course-correction. Pat Maloney, a technician at Ball's Wakefield, UK plant, describes it this way: "We're always looking for bottlenecks and chokepoints in the production line. It can be especially hard to pinpoint some issues, especially if it's something that only occurs once every 24 hours; it's like looking for a needle in a haystack. Acumence turns every one of those needles into a big flashing light so we can see it right away and solve the problem as soon as it arises."

With Acumence, production line technicians can fine tune conveyor speeds to optimize overall equipment effectiveness and streamline the production process. If upstream feed rates are slow, for example, operators can adjust the feed rate for a key downstream process to avoid shutdowns and restarts. Real-time monitoring provides machine operators with immediate feedback that empowers them to make adjustments.

Acumence supports Ball's quality management processes by proactively notifying managers of conditions that don't align with expectations. If a particular production run calls for a special treatment and the real-time data indicates that it's not happening, Acumence notifies line managers immediately so the situation can be corrected on the spot. In many cases, defects occurring in an upstream process might only be detectable further down the line. With Acumence, upstream operators have visibility to what's happening downstream. They can address problems quickly and proactively to get things back on track and prevent defects from accumulating downstream.

Shift managers can see exactly what's happening on the shop floor, across every production line. Ray Howcroft, the Lean Enterprise Director at Ball Corporation, describes life before and after Acumence: "As a shift manager, I would be trying to manage three separate lines from the office. Half the time I had no idea what was actually happening on shop floor unless I went out there to ask somebody what just happened. Now I have complete visibility across all of my production lines. I see potential problems before they turn into bigger ones. I get a visualization that shows me as soon as a line goes down, or as soon as a machine goes down, or even if there's a potential issue on the horizon. I can be very, very proactive."

Ball's users also appreciate the flexibility of the Acumence software. With their previous line monitoring systems, they had access to very limited data points – downtime, overall production, and spoilage. Today, they have created custom views that give operators a nuanced view of upstream and downstream operations. Acumence can be customized to deliver the exact information users need.

The Outcome

Since implementing Acumence throughout the EMEA region, Ball's efficiency has increased by an impressive 3%. This success is built on hundreds or thousands of incremental improvements, all driven by real-time feedback and data analytics powered by Acumence.

Howcroft describes the company's success this way: "We're not looking to save hours, and we're not even looking to save minutes. We're looking to save seconds, and when we do that consistently and repeatedly, it adds up to billions of cans per year, leading to very real savings."

Acumence has proven useful to a broad group of users at Ball, from temporary operators to senior management. There's an Acumence display at every operator station. According to Howcroft, workers love it because it helps them deliver peak performance.



Managers and users alike appreciate how easy it is to use Acumence. As the company has grown, they have brought on significant numbers of new staff. Onboarding has been effortless, as the software requires minimal training and ramp-up time.

For Ball's senior management, Acumence is providing a common set of performance metrics across all of Ball's European operations. The company has clear benchmarks and can easily zoom in on inefficiencies, identify root causes, and improve results.

Maloney is enthusiastic about Acumence as well: "I honestly can't imagine running a plant without Acumence. I've worked here for 33 years. In that first couple of weeks when we're getting a new line up and running, I feel completely blind until we have Acumence in place. That enables us to get everything working right very, very quickly. It makes a massive difference for us."