



Cascades Tissue Group Achieves Reliable and Predictable Manufacturing Performance

GE Digital's software enables real-time production insights



A blast into the siloed past...

It's 5 a.m., and Sarah Smith is starting her shift as an operator at Cascades Tissue Group in Memphis, Tennessee. As she begins to look at the work from the previous shift, she realizes they didn't produce the amount of tissue products they were supposed to because one of the lines went down. But she doesn't have the visibility or analysis to understand what caused the downtime. Sarah also knows her plant continually faces quality issues compared to Cascades' other plants, but she isn't sure where to make improvements to ensure better consistency. These types of hypothetical scenarios were not uncommon at Cascades before the company implemented powerful manufacturing execution system (MES) capabilities. Today, Cascades has a real-time pulse on its operations to make fast informed decisions across its various sites—ensuring quality and consistent production.

About Cascades

If you're a consumer who buys environmentally friendly products, Cascades is likely a name you trust. As a well-known North American tissue manufacturing and conversion company, Cascades produces paper hand towels, paper towels, bathroom tissue, facial tissue, napkins and wipes, and also designs dispensers for its tissue products. Headquartered in Canada, Cascades is the fourth largest tissue paper manufacturer in North America today.

The company is known for its strong environmental practices and offers a complete range of products that are made from recycled fibers and carry certification seals, including PCF (Processed Chlorine Free), EcoLogo, Green Seal and Green-e®. Environmentally friendly Cascades products are made with less water than the Canadian industry average, and they are compostable and biodegradable.

Along with sustainable green manufacturing, quality is core to the Cascades brand value. Understanding that there is no compromise when it comes to consumer expectations related to quality, Cascades has invested in equipment, processes, and a culture that enable it to manufacture a higher quality product with a smaller ecological footprint.



The challenges of business growth and disparate systems

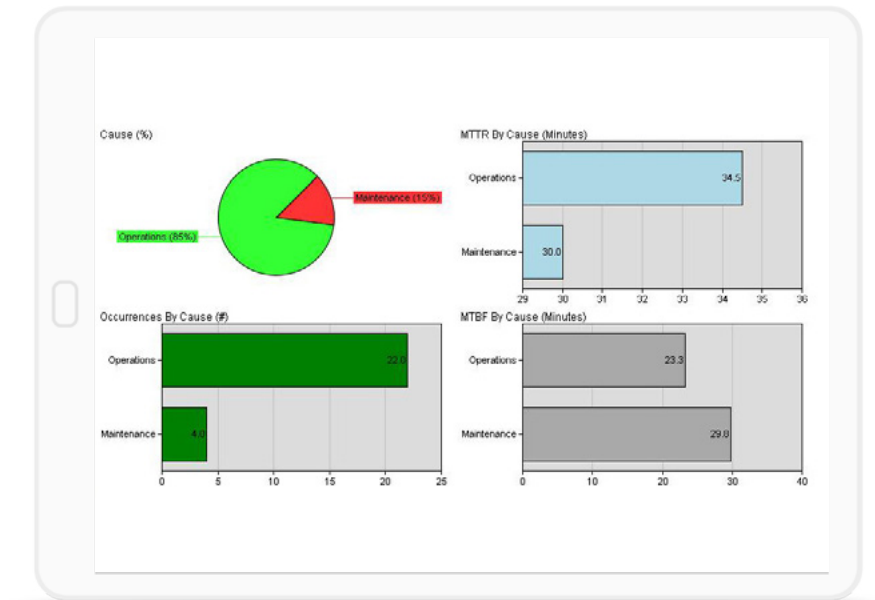
As part of its growth strategy, Cascades Tissue Group, a division of Cascades, acquired several manufacturing sites, which resulted in disparate automation infrastructures. Some of the plants were 100 years old and without a lot of data or sensors on machines, making it difficult to effectively monitor them and gain operational visibility.

Lack of consistent visibility, reporting, and performance metrics hindered the ability to effectively assess production downtime, efficiency, and quality characteristics. The company could not compare the operational performance of its individual sites to make informed decisions about how to allocate new resources across its operations. It needed a common platform whereby different systems could connect and talk to each other using real-time information and analytics.

GE Digital's solution: Real-time decision support on a common platform

With GE Digital's software, Cascades Tissue Group embarked on a phased approach to upgrade the automation infrastructure of the paper line across its key manufacturing sites.

- For phase one, the goal was to identify key process parameters and to ensure that data was collected uniformly across all sites. GE Digital's Historian provided a site-wide platform for consistent data collection, archiving, and distribution. The solution allowed Cascades Tissue Group to aggregate its data in a central place and quickly extract value from it through data analysis to drive better, faster business decisions.
- In the second phase, it installed GE Digital's Plant Applications, part of the Brilliant Manufacturing suite. The solution's powerful manufacturing execution system (MES) capabilities provided a common platform to track real-time production, manage quality, monitor downtime, and gather genealogy information.
- To facilitate continuous improvement, the company also integrated a web-based tool with sophisticated trending and reporting capabilities to access, analyze, and visualize production data.



GE Digital's Plant Applications software helps track real-time production.

Results

- Reduced production downtime
- Better quality tracking and management
- Increased operational efficiency
- Faster responsiveness to issues
- Smarter decisions based on data-driven insights

"Data is really important to us to improve stability of the operation. GE provided the most complete software suite for our needs."

Benoit Lapensée, MES Director, Cascades Tissue Group



Continued competitiveness by tracking downtime and quality

A critical goal for Cascades Tissue Group was to track production downtime. Using sensors and signals on the machines, it sought to understand where downtime was occurring by starting with a common basis for all of its lines. While machines may be operating, they could be running dry and thus not driving productivity or profitability. By understanding which machines had production issues, it could adapt to that equipment to avoid downtime.

Quality was also a top priority for the business. Being in a very aggressive retail market with many different brands, Cascades Tissue Group wanted to ensure its quality stood out from competitors. To provide the level of quality that consumers expected, it needed a way to track quality and drive consistency across its products, no matter which plant or line produced it.

Process improvements through better data visibility and analysis

With GE Digital's software, connected data has been a key enabler of better business performance, providing Cascades Tissue Group with deeper insights into its operations. The solution collects and analyzes data, and automates and integrates the information-related activities for performance optimization holistically. With these capabilities, operators can make objective business decisions related to efficiency, downtime, and quality.

In the past, machines could run or set up however the operator chose, only to have the next operator change everything back to "his or her own way." Now data provides a single version of the truth of machine behavior, and through analytics, users can see the trends and understand the impact of making changes.

Understanding how the machines work enables users to make the best decisions for improvements. For example, operators can see how changes to the speed of a machine will impact the softness of the paper by monitoring the output, quality specs, and data points related to the product itself and track those against the process setup. Data analysis brings deep operational insights that were previously untapped.



Using data analysis to understand machine performance allows for better decisions.

Higher Overall Equipment Effectiveness (OEE)

Before implementing GE Digital's software, operators had to wait until a report came out at the end of the month and try to figure out what happened and fix it. Now, they can see in real time if there's a problem, where it is, what it is, and inform the right people to address it. This level of responsiveness helps increase quality and efficiency and improve key performance indicators (KPIs).

For example, operators can quickly and easily access real-time KPIs such as OEE. This capability helps drive efficiency because when operators see the metrics, they understand what they are and how to make adjustments to ensure machines are running at peak performance. Furthermore, the way OEE is calculated is now centralized and standardized, whereas before, operators had their own ways to calculate the metrics, causing inconsistent views and results.

GE Digital's Brilliant Manufacturing software leverages the power of the Industrial Internet, enabling Cascades Tissue Group to optimize its production performance for a competitive edge.

Powerful business outcomes help drive continued competitiveness

With GE Digital's software, Cascades Tissue Group can ensure quality and consistent production with critical insight into quality information and process performance. The solution delivers an integrated approach that accelerates information delivery and enables product reliability—increasing consumer confidence and brand loyalty.

Furthermore, to drive sustainable manufacturing, the software helps uncover data from systems and sensors, and makes it available for both usage analysis and the process or equipment tuning that eliminates excessive usage. It provides intuitive visibility into resource consumption in areas controlled by operators, technicians, and management, empowering them to drive savings as events occur.

With a single view of production data powered by GE Digital's software, operators at Cascades Tissue Group can make informed decisions that help drive quality improvements and increase manufacturing efficiency across the various sites—critical for sustainable growth and a competitive edge.

Cascades Tissue Group can now keep a real-time pulse on operations, whether it's the speed of a machine in Toronto or in Memphis. If there's a problem, everybody knows in real time what's occurring on the production floor. And this makes for rapid response times—driving faster problem solving and optimized performance.





About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.

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