Green Paper Producer Gets Even Greener through Data-Driven Initiative Powered by Kepware's Communication Platform

The Customer

Having recently celebrated its fiftieth anniversary, Cascades was involved with recycling well before recycling was in style. Cascades Tissue Group, a division of Cascades, employs over 2,200 people within seventeen manufacturing and converting facilities throughout the United States and Canada. Cascades owns and operates seventeen paper machines, nearly ninety converting lines, and eight integrated de-inking units. Its products (which include paper hand towels, bathroom tissue, facial tissue, paper napkins, perforated roll towels, wipers, and dispensers) are made entirely from recycled materials.

With a substantial focus on the environment and sustainable practices, Cascades constantly updates its Sustainable Development Plan to ensure progress towards relevant and measurable objectives. It is the only North American paper manufacturer with a team of experts dedicated exclusively to energy efficiencies.

"At Cascades, we are devoted to two driving principals. We want to make the best paper products possible for our customers, and we want to do so in the most environmentally conscious manner possible," said Benoit Lapensée, Engineer and MES Coordinator. "Cascades does not harvest any new trees. Our 100 percent recycled towel and tissue products are made primarily of post-consumer material, which allows us to divert valuable fiber from landfills and preserve the environment."

The Challenge

Cascades' environmental efforts traditionally focused on the sourcing and disposal of raw materials; however, in recent years, the company (like much of the Manufacturing Industry) has increased its emphasis on data collection and analysis for improved efficiency and clean operation. Cascades knows that operating at peak efficiency significantly reduces its environmental impact.

As the technological cornerstone of its data-driven initiative, the company instituted a cutting edge Manufacturing Execution System (MES) in 2007. Cascades' MES ensures delivery of the right information to the right place at the right time. This level of data access helps Cascades' manufacturing decision makers understand how to optimize conditions on the plant floor to improve production output and operational efficiency. Ultimately, Cascades' MES allows the

Organization:

Growing capacity, ongoing innovation, and a pipeline of increasingly popular ecological products position Cascades Tissue Group as an industry leader.

Industry:

Manufacturing

Solution:

KEPServerEX®
LinkMaster

already green company to operate in an even more responsible manner.

With "reuse" and "repurpose" at the core of its mantra, the company compiled a sizeable and unique production plant architecture, featuring many legacy machines repurposed and refurbished to meet modern needs. This architecture works quite well for the company in general, but requires a streamlined communications solution that supports nearly any protocol and bridges servers between old and new machines within the confines of the MES. Cascades needed to ensure that its MES could communicate with and gather data from each and every piece of machinery—regardless of make, model, or age.

"In recent years, we have paid particular attention to technical solutions that can help us operate our infrastructure in a cleaner and more energy efficient manner, so we needed a reasonably simple way to communicate and compile our operational data across our production lines," said Lapensée.

Organization Impact & Benefits

- Improved operational efficiency by over 5 percent
- Advanced environmentally responsible operations
- Significantly reduced downtime
- Connected legacy equipment with modern OPC-enabled applications
- Simplified addition of drivers to support new or evolving protocols

The Approach

After experimenting with a number of well-known, disparate communication solutions, Cascades identified a communications platform and bridging tool that promised to significantly streamline communications and link together the company's multi-generation machine infrastructure.

Using Kepware's KEPServerEX, Cascades now supports communications across all of its seventeen plants, seventeen paper machines, and nearly ninety converting lines with just one piece of software. Engineered to support the OPC standard and over 150 different protocols, KEPServerEX allows Cascades to communicate with virtually any machine on its plant floor and access data without restrictions. By implementing KEPServerEX, Cascades has eliminated numerous disparate communication devices and is now polling over 11,000 tags from nearly 500 PLCs using a single server.

Cascades also adopted Kepware's LinkMaster solution to enable communications between modern and legacy equipment. The easy-to-use application acts as a universal bridge for OPC systems. LinkMaster allows Cascades to easily link data between multiple OPC data servers, providing a simple means of integrating systems from multiple vendors—including legacy equipment—into a single operational solution.

"Kepware allowed us to easily and effectively facilitate the communications that drive our MES initiative," said Lapensée. "After expending time and resources trying to cobble together different communications solutions, finding one piece of highly intuitive software that could get all of our machines talking was just what the doctor ordered."

The Results

Since adopting KEPServerEX as the primary communications platform supporting its MES and data-driven initiative, Cascades has achieved significant improvements throughout its manufacturing facilities. The company is now able to measure indicators (such as temperature, pressure, and RPM) in mere seconds; a process that once required several minutes. Implementing KEPServerEX not only improved Cascades' ability to react to machine data, but also increased the company's operational efficiency by 5 percent. Precise, constant measurements help workers on the plant floor identify and mitigate potential machine failures, significantly reducing downtime.

Cascades leverages Kepware's award-winning customer support for troubleshooting and project optimization. The company also works with Kepware to add new licenses and support for additional PLCs (such as GE and Siemens) as their connectivity and data access needs grow and evolve. Having this strong working relationship allows Kepware to understand Cascades future enhancement and product needs as they continue to expand their footprint in each facility.

Cascades has streamlined operations by leveraging Kepware's LinkMaster solution to quickly and easily bridge legacy OPC servers with newer OPC-enabled applications. The Windows-based application ensures total control of Cascades' data flow and application access with an extremely intuitive click and drag user interface. LinkMaster empowered the environmentally-dedicated organization to meet its sustainability goals by simplifying data communications even further and ensuring that the company is always armed with the information it needs to operate at peak efficiency.

When its manufacturing facilities are operating more efficiently, Cascades is operating more responsibly. According to Lapensée, "Kepware is truly at the heart of a wildly successful MES program, helping us in our ongoing mission to develop great paper products in a responsible way."

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About Kepware Technologies

Kepware Technologies is a private software development company headquartered in Portland, Maine. Kepware provides a portfolio of software solutions to help businesses connect diverse automation devices and software applications. From plant floor to wellsite to windfarm, Kepware serves a wide range of customers in a variety of international vertical markets including Manufacturing, Oil & Gas, Building Automation, Power Distribution, and more. Established in 1995 and now distributed in more than 100 countries, Kepware's software solutions help thousands of businesses improve operations and decision making.