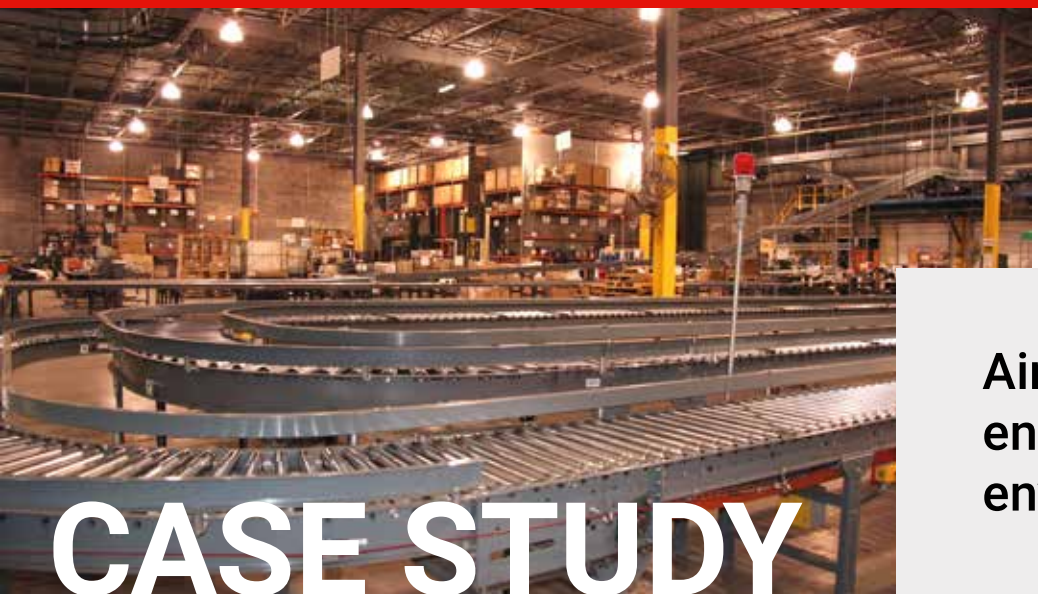

JHFOSTER
A Tavoron Company

CASE STUDY

Air audit reduces energy costs and environmental impact

A large Midwestern state-of-the-art packaging firm with over 70 years experience providing corrugated containers was searching for new ways to improve their plant's efficiency and reduce environmental impact. Offering just-in-time solutions to help customers keep their packaging costs to a minimum, they use compressed air to run their corrugators' glue unit. They decided to replace an existing glue unit, which was operating at less than full capacity. Their purchasing group went to Xcel Energy to explore rebate possibilities offered through the Compressed Air Efficiency program.

CHALLENGES

JHFOSTER was retained to analyze their entire compressed air system offering a bigger picture of the opportunities for improvement and enabling them to choose those that would make the biggest impact on their bottom line. The study revealed energy being unnecessarily lost throughout their system while running at a high operating pressure, causing significant amounts of blow off as a result of artificial demand. Plus, the existing dryer ran continuously and the drains were slowly but constantly leaking air.

SOLUTIONS AND BENEFITS

JHFOSTER's efficiency study enabled the plant managers to see precisely how their compressed air system was operating and provided an action plan. The air compressor unit the firm had been considering was oversized for their needs, so to match load to demand, they installed a smaller compressor and cycling dryer, thereby reducing losses from blow offs and leaks. This reduced the amount of energy used during production, while the addition of no-air-loss drains eliminated the leakage from the former drains. Also, a new demand receiver, pressure controller and mist eliminator allowed overall operating pressure to be reduced, saving thousands of dollars per year in operating costs and extending the life of the equipment.

With the application of the air system audit, less than a year after making improvements, the packaging firm has seen significant savings on their electric bills, as well as improvements in their plant's response times and ability to serve customers in the most cost-effective manner. The new system also reduces downtime needed for maintenance, troubleshooting and repair.