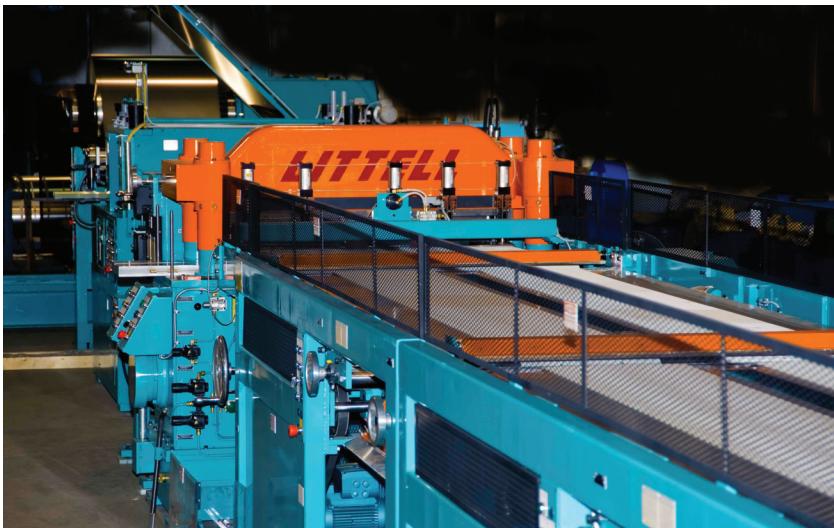


Solutions in Action



Allen-Bradley GuardLogix
Safety Controller



Littell offers a Rockwell Automation drive and control system retrofit to optimize their scroll sheeting systems.



Allen-Bradley Kinetix 7000
High-Power Servo Drive



Allen-Bradley PowerFlex 525
AC Drive

Since their introduction two centuries ago, steel cans have been an essential part of everyday life. From the beginning, can manufacturers have worked to improve their process – and create ever lighter and more cost-effective products that maintain the structural integrity food, beverage and other industries require.

Scroll sheeting lines are key to optimizing the can making process, and nearly all suppliers rely on Littell equipment to run those lines. Illinois-based Littell enjoys a 90 percent global market share with more than 300 lines in operation. Equally impressive is the longevity of its installed base.

"I think it's safe to say the quality of our equipment is unsurpassed," said Jeff Mazrimas, chief electrical engineer, Littell. "Our company pioneered scroll sheeting systems in the 1950s and 90 percent of the lines we produced – including our first system – are still in operation."

A scroll sheeting line processes tinplate or other metal coils and readies the material for secondary processes, including can making. The equipment uncoils and flattens the material, feeds it into a shear where it is cut to specified lengths, and then stacks the sheets.

Maximizing the productivity of the line and the utilization of the coil stock is the goal of any scroll sheeting system. Littell equipment maintains tight tolerances at speeds up to 275 meters per minute (mpm), providing output ranging from 50-300 sheets per minute. In addition, the company focuses on adapting their systems to meet the challenges of thinner stock and developing innovative cutting patterns to minimize waste.

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Automation

"Littell is committed to helping our customers maintain their lines and improve productivity," Mazrimas said. "With active equipment life spanning 60 years, servicing our systems can be challenging."

From an electronic standpoint, the older control systems are more prone to breakdown and often so outdated spare parts are no longer available. In addition, the obsolete controls do not easily integrate with contemporary supervisory control and data acquisition (SCADA) systems – or provide the information these systems require.

"Especially when we are working with steel mills, it's not just cutting coil," Mazrimas explained. "It's a sophisticated product coming in and going out. The mills want to track coil-making quality as well as quality off the cutting line."

To upgrade their machines, Littell offers a complete drive and control system retrofit based on Rockwell Automation technology. Since functional safety is a key requirement for this equipment, the company standardized on the Allen-Bradley® GuardLogix® safety controller platform for overall line control. Allen-Bradley Kinetix® 7000 high-power servo drives handle the system's coordinated drive control, while Allen-Bradley PowerFlex® 525 AC drives run the conveyors.

Littell uses the Safe Torque-Off feature in all the drives. Safe-off capability removes rotational power from the motor without powering down the entire machine. As a result, equipment can be brought to a stop more safely – and restarted more quickly. The robust safety solution also incorporates POINT Guard I/O™ and other safety-rated components.

The retrofit is integrated on an EtherNet/IP™ network. Allen-Bradley PanelView™ Plus 6 graphic interfaces enable local monitoring for various machine segments. The system's main console includes an industrial computer running FactoryTalk® View human machine interface (HMI) software.

"We need to approach each line a little differently, depending on the original equipment," Mazrimas said. "For example an upgrade on an older piece of equipment might also include replacing a mechanical feed system with an electronic one. Still our aim is to minimize downtime and complete the retrofit within a two-week window."

To meet this aggressive timeline, Littell takes a turnkey approach. Control cabinets are pre-built and tested at the Littell production facility. I/O racks are also pre-assembled. Once the control system is complete, Littell's team removes their customer's old system and installs the new one.

With the new control system in place, Littell customers can leverage all the advantages of a modern Rockwell Automation Integrated Architecture® solution, including easier diagnostics and troubleshooting, more efficient changeovers, and enhanced production information.

"Rockwell Automation provides the flexible, forward-looking technology we need to keep our equipment up-to-date," Mazrimas said. "In addition, we know we can rely on their worldwide support and product availability to help us serve our customers wherever they are located."

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