

Background of the Company

Prestage Foods of Iowa is in Eagle Grove, Iowa. The plant opened in Spring 2019. They are a high-volume pork processing plant. Prestage Foods of Iowa is processing 8,500 hogs per day and is aiming to process up to 10,000 hogs per day. They currently employ 800 workers and are growing to meet their goal of employing over 900 workers at their facility.

The Challenge

Prestage Foods of Iowa recently built a brand new \$325 million facility. Even though the plant was new, it still lacked adequate space for the case labelling lines. Their mezzanine has three case labelling lines and each line has approximately 20' available for Carlisle Technology to weigh, label, and sort incoming cases of product. This project had three key challenges:

1. Prestage Foods of Iowa had the goal of labelling up to 32 cases per minute on each line
2. Space between lines was limited; preventing the plant from being able to use a spare print and apply system if their main applicator went down for low labels or maintenance
3. There is no surge conveyor to handle incoming product if a print and apply system goes offline

The Approach

The approach to solving these challenges was to alter the overall design of the solution. Instead of relying on a spare applicator that could be moved to the line when needed, each line was designed to have two permanent Panther print and apply systems. This removed any issues with getting a print and apply system in and out of the conveyor lines and it also removed the need for a surge conveyor. Finally, by allowing a quick transition between the two applicators the solution prevented the overall product throughput from being negatively affected.

The Solution

Carlisle Technology's iCap M5 Automated Weighing and Labelling software was modified to control which Panther print and apply system is active and which one is passive. This can be done manually with an operator or automatically through the low label output signal from the print and apply system.

Manual Mode

For the manual application the Panther Industries print and apply system sends an output signal when it's running low on labels. This output signal lights a beacon, and triggers iCap to stop the infeed conveyor to prevent new cases from entering the system. Once all the cases are clear the operator will select an onscreen button to switch to the alternate print and apply system. The operator then selects the "start" button to restart the infeed conveyor and resume weighing and labelling using the alternate applicator.

Automatic Mode

In the automatic mode, iCap M5 automatically switches between Panther Industries print and apply systems. Once iCap receives a low label output signal it automatically shuts down the infeed. Once all the cases have been cleared from the system iCap automatically switches to the alternate print and apply system and then restarts the system. If necessary, iCap will also automatically update the labels and graphics on the printer for the active applicator before starting the infeed conveyor again.

Solutions Providers

Carlisle Technology and Panther Industries have been partners for almost two decades. Together, these two companies provide automated case weighing and labeling solutions that are designed to work in some of the highest volume meat processing plants in North America. We take pride in our solutions knowing the value automation brings to the production process. By implementing this type of better plant automation, a processing plant is proactively choosing to increase production throughput, reduce production costs, minimize human error, and maximize their use of plant floor real estate.