Automation makes the process flow for beverage company

- **The problem:** Starting from humble beginnings, this beverage company rapidly grew as their product gained popularity, propelling them to increase production to meet regional demand. Their legacy process of manual/ semi-automatic bottling and packaging was segmented and could not keep up with demand, while product tracing and quality were hard to manage with the increase in volume. They turned to HighPoint to assist with their automation needs.

- **The solution:** HighPoint started this endeavor with a trip to the production site, where they viewed the current state of operations and met with the team to discuss the current process and their production goals. Once they laid out where they are and where they want to be, HighPoint got to work figuring out how to get from A to B.

- Each process station was functioning independently of the system, which was adequate until a fault occurred somewhere along the line causing bottlenecks and crashes. Handshaking was established between the various system processes to create continuity from start to finish. Now if a fault occurred, the preceding stations were notified and could adjust throughput accordingly. If boxes were backed up on the packaging conveyor triggering a photoelectric sensor, a signal was sent to the case sealer to halt until boxes were cleared of the sensor. If the case sealer station was full, boxes accumulated on the incoming conveyors until a certain point. When that photoelectric sensor was triggered, the pick and place bottling station was signaled to slow until the case sealer conveyer sensor was cleared. This inter-operational communication continued all the way to the bottle filling station, where the fill rate was metered based on how fast the bottles were moving through the conveyor. The system stations now worked together instead of against each other, using Allen Bradley Compact Logix PLCs throughout.

- In an effort to efficiently allocate resources, the customer wanted an audible alarm to signify when a pallet was full. The operator responsible for preparing the next pallet had other tasks to complete while the pallet was unloading. Therefore, an alarm that could be heard from 50ft away on their shop floor was needed. Because this alarm would sound multiple times throughout the day, they requested the audible alarm to be pleasant and able to be changed to a person's voice or clip of a song, etc. HighPoint installed and programmed an industrial mp3 player, audio amplifier, and speakers on the depalletizer line. This industrial mp3 player can play any song, sound, or voice at 90dB when signaled by the PLC.

- HighPoint completed other tasks to update and optimize their system, such as commissioning a new case sealer, adding stack lights and visual indicators at different stations along the process, specifying pressure sensors to detect low pressure on the pick and place, installing IFM optic sensors to detect box orientation and completeness of bottle, and adding a float level switch to the filling station to

name a few. It was important that each upgrade fit seamlessly into the already established process so that production operators and managers alike could navigate the logic to the standard to which they were accustomed.

- Since these system upgrades, throughput has increased 45%, allowing the company to comfortably meet their current production demands with room to grow for the future! With the different stations of the process now communicating with each other as well as visually and audibly sending notifications, shop floor resources can easily monitor the process and quickly address any issues that arise.

- **The Hardware**
  - Allen Bradley Compact Logix PLC
  - Allen Bradley 9.5" PanelView HMI
  - Variable Frequency Drives
  - Stainless steel industrial control panel
  - Photoelectric sensors
  - IFM optic sensors

HighPoint offers comprehensive controls engineering solutions, specializing in the design, programming, integration, and support of automation systems. HighPoint works to repair, upgrade, and commission equipment based on the automation needs of our customers. From PLC and HMI systems to robotics and all automation equipment in between- **We're On It!**