

Robotics Case Study

Carter Control Systems

CCS is a leader in automated material handling and industrial automation solutions. We design, manufacture and implement both standard and custom warehouse automation solutions. No project is too large or too small and we understand how to provide a phased in approach that allows future growth for our customers. We stand by our clients whether they are taking the first steps into automation or outfitting an entire facility. Our guiding principles (Quality, Cooperation, Responsibility, and Communication) are embedded in all we do. With over 300 employees and 40+ years of experience in the material handling and supply chain industry, we provide expertise in a full range of equipment, controls, software, and services. We are also a trusted integrator with proven partnerships throughout the industry. At CCS, we continue to take great pride in helping our clients realize their material handling goals to operate better today and prepare for tomorrow.



7118 Geoffrey Way, Suite A
Frederick, MD 21704
1 (877) 722-4227
info@cartercontrols.com
www.cartercontrols.com
<https://vimeo.com/user103101159>

“The project went very well. I was impressed with how professional the CCS team was compared to other vendors.”

- Inergy Representative

Growth & Impact



Increased
Throughput
and
Operational
Efficiency



Eliminated
Workers
Compensation
Claim Risks



Reduced
Labor Costs

Robotics Case Study

CCS implemented a multi-axis robotic cell to fully automate Aladdin's packaging process.



The Client

Inergy, a division of Plastic Omnium, is the first to use extrusion blow molding to produce plastic fuel systems. The tanks are made of high-density polyethylene and are corrosion-resistant without any need for coating. Once formed, the tanks are sent through a cooling tower and placed on conveyor where it continues down the line. Previously, operators manually moved the tanks from the cooling tower to the conveyors. CCS' one step fabrication system allowed manufacturing to remain simple, despite complex tank shapes.

Inergy had several issues the sought to address:

- Operators jumped between lines and could not keep up with the tank throughput.
- The tanks' size and weight vary, making it difficult to always have the correct operator.
- Operators were hurting themselves lifting and carrying the tanks to the conveyor.
- Labor costs were too high.

The Solution

Implemented a Multi-axis Robot

The robotic cell is placed at the exit of the cooling tank. It then grabs tanks of differing sizes and structures out of the tower and places them at the start of the conveyor system.

Developed Specialized End of Arm Tool (EOAT)

The robot had to not only grab the tank out of the cooling tower, but also pick it up and place it on the conveyor. Providing a custom EOAT to complete two tasks eliminated the need for more than one robotic cell.

Customized Robotic Programming

The robot needed to be able to place a tank on any one of the three conveyors. CCS had to factor in the type of conveyor the tanks would require to move down the line as well as a robot that had the range to complete these movements.

“The electrical controls person, project manager and engineer manager were all great to work with. As soon as they identified a problem, they started a redesign immediately.”

- Inergy Representative