

*A growing number of small and medium consumer packaged goods producers have realized that robots will improve output in both the primary and secondary packaging areas.*

*Today's robots can be small and lightweight — with some weighing even less than 200 pounds — allowing the option of moving it to different places on the line.*

*Companies are currently developing intelligent systems that can enable industrial robots to interact with humans like cobots do.*

*With virtual assistance from the manufacturer, in most cases your personnel can make programming changes easily right in the factory.*

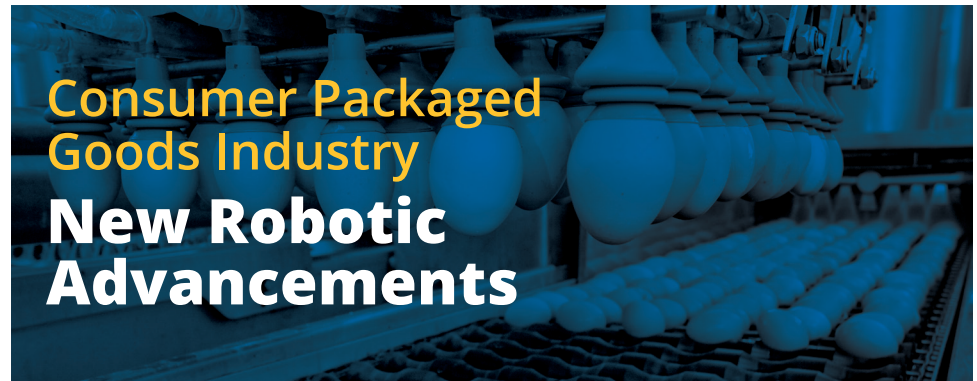
*Training robots and other automated systems no longer take many hours, days or weeks. Some robots can receive images and pertinent data and actually learn on their own.*

*The ANSI/PMMA Safety Standard B155.1-2016 outlines the requirements for packaging and processing machinery — and will help to guide you in meeting all safety regulations when integrating a robot into a processing or packaging line.*

## EVERYTHING UNDER CONTROL

### TRENDS & TALK FOR THE MANUFACTURING INDUSTRY

*c3controls is pleased to present first in a series of informative articles that will provide information on the latest advancements that affect the way manufacturers are designing and building machinery today.*



New advances in the robotics industry specifically designed for the Consumer Packaged Goods Industry are becoming the standard in more and more companies of all sizes. Before the onset of COVID, you generally only saw these types of robots incorporated into food processing and packaging production lines in larger plants. With the changes forced by the pandemic, sanitary and social distancing requirements have meant that they are becoming more widely adopted today out of necessity.

Some of these advancements include autonomous intelligent mobile robots that can be moved from one work area to another when needed. These robots provide many features including handling payloads up to 1,500 kilograms and employ lasers to provide 360 degrees of safety for the working area. Many robots have on-board sensors for precise pickup and placement of materials.

There are many new 6-axis robots with various payload sizes that can be used as a standalone robot or as part of a line in end-of-line application — such as packaging, kitting, material handling or palletizing. These automation robots are quickly being adopted by manufacturers across the industry.

New features, smaller sizes and lower prices make today's robots more versatile than ever before. They are more quickly and easily adaptable to a variety of specific needs throughout a CPG manufacturing facility — many able to change tasks throughout the day as a company moves production from product to product.

## New ideas and technologies

Basic robotic technology is rapidly evolving — and one of the areas of advancement is in object recognition. Engineers have had great success in improving a robot's ability to do bin picking — including taking known images from the Cloud, instead of storing the data in the robot's control system. When the robot receives images and pertinent data, it will assess what the item is shaped like — which helps it determine the best way to pick it up, where it's stable, and how to remove the item and place in position for packaging.

The advancement in new gripper technologies working with flexible soft food grade items has been amazing. The newest soft gripper technology allows CPG providers to explore new possibilities for food and beverage, cosmetics and pharmaceuticals automation. Soft grippers can easily handle a wide array of irregular shapes such as fruits, vegetables and delicate objects without damage. These grippers can improve production with higher quality and reduced waste.

## Expanding into many areas of supplying food products

There has been a tremendous growth of applications for robot technology in farming — including producing, picking and supplying the food products to the processing plants. Robots are being introduced into areas that they have never been applied before. Robots and cobots are moving beyond just becoming more usable, and more utilized within the manufacturing industry.

Robots are no longer the last thought that companies consider. Now they are beginning to be the first thing that CPG companies turn to for solutions. Whether it's a fixed robot, or a cobot (collaborative robot), the fact is that robots are becoming much more adaptive and versatile than they ever were before. They are driving a new revolution of change within the Consumer Packaged Goods industry.

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## Remote Access critical in today's workplace environment

One technology that has seen increased usage in the food industry is Remote Access — particularly since the start of COVID-19. Remote Access Technology is the ability to remotely access plant floor equipment, or specific devices and systems, either by in-house engineers or operators — or even third parties such as OEMs and system integrators.

Remote Access technology has been available for some time, but its use has become a necessity and is being more readily adopted throughout the CPG industry to meet pandemic distancing restrictions.

## Augmented Reality will transform employee training

Augmented Reality is a newly emerging technology that modifies a real-world view by superimposing a real-time computer-generated sensory image, sound, video, GPS data, or graphics, in a semantic context. This technology offers a composite view of the environment and an enhanced perception of reality.

Training CPG staff — both in the plant and remotely — can be conducted in a way that has not been possible before using Augmented Reality. This technology provides workers of all skill levels the ability to walk through a step-by-step process to smoothly perform any required task. The technology has been developing very quickly over the past several years and — once again, has seen an accelerated level of interest due to COVID in the past year.

## Electronic machine controls for over four decades

We are proud to have played an integral part in the operation and control of many different types automation and robotic manufacturing systems, including food processing and packaging machinery for the Consumer Packaged Goods Industry.

We hope you have benefited from our first issue of *EVERYTHING UNDER CONTROL* and have learned something you may not have known before. In future issues, we will provide you with information on the latest trends and advancements for a wide variety of industries that depend on c3controls products as an integral part of their machine controls.

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## Handling Customer Concerns

Quality at c3controls includes our comprehensive follow-up service after the sale. In order to respond promptly to customers, c3controls has a quality process in place which includes immediate return and replacement of the product to keep our customers' production up and running — as well as a comprehensive review of the product application to determine if the perceived issue is only present under certain conditions.

The goal of the quality process is to identify what specific issues the customer is experiencing with the product — including determining problems that are application specific and to prevent those issues from reoccurring in the future.

## Advantage Pricing

We have complete control over our engineering and manufacturing processes, maintain lower overhead costs than our competitors, and offer our factory-direct business model. We offer customers a buying partnership that can save them up to 40% — and has helped our customers improve profitability and cash flow for more than 44 years.

## Same-Day Shipping

At c3controls, we know how important it is to get your orders on time, every time. That's why we offer Guaranteed Same-Day Shipping on any order for standard catalog items received by 6:00pm ET. Our customers enjoy peace of mind knowing they will get what they need, when they need it. A promise that we know can help you reduce inventory and save money.

## Limited Lifetime Warranty

While other companies claim to offer the highest quality products on the market, at c3controls we guarantee it. We can ensure high quality because we have total control over every aspect of the engineering and manufacturing processes.

## Quality that meets your exact requirements

Using our decades of experience, c3controls continues to expand our culture of 'quality' to design products that meet our customers' challenges of today and tomorrow.

c3controls produces durable, well-designed electrical control products that meet global standards for quality and safety — and perform reliably even in the most punishing environments. Ranging from power and actuation to control logic to human machine interface to wiring/cable duct — c3controls offers products that perform the essential control functions that are at the heart of nearly every electrically operated machine and equipment.

*For further details on our world-class products, call us today at 724.775.7926 or visit us at [www.c3controls.com](http://www.c3controls.com)*