



# Flipping Burgers One Robot at a Time

## Applications

- Packaging

## Products

- IRB 340 FlexPickers



Since 1921, fast food connoisseurs have been anything but strangers to the wonder of the White Castle enterprise. What started off as a local, family owned entity serving five-cent, ready-to-eat burgers has grown into a famous and celebrated commodity in the eastern and midwestern regions of the United States.

Over the last 20 years, the White Castle manufacturing process has grown with the company's increasing popularity. While the

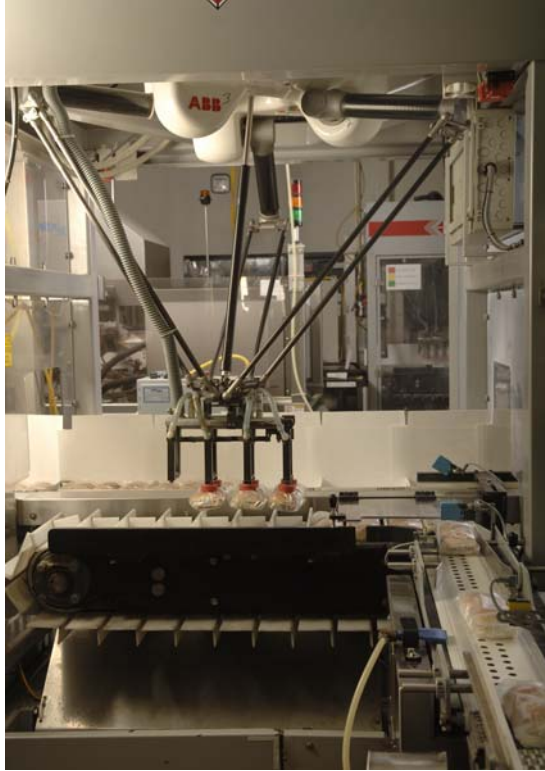
consumer's passion for square-shaped, steam-grilled Slider burgers persisted, the process to meet that demand intensified as well. Manufacturing plants were already fulfilling orders around the clock, with crews responsible for overseeing the process from start to finish.

### **“Slyd-ing” Across the Nation**

In 1987, the United States experienced a trend of westward movement among residents



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shift within its current customer base, White Castle seized the opportunity to capitalize on a developing national audience by offering a microwaveable White Castle burger alternative through mass-market retail and grocery channels.

White Castle manufacturers all over the region felt the impact of the success of the retail component immediately. The packaging area of each plant became the most labor-intensive workstation, with more than 200 employees staffed to fulfill each order by selecting the burgers from the line and packing each carton by hand.

As the number of orders increased, the turnover rate of the employees accelerated, as well. The long hours required to sustain the productivity of the plant became overbearing and exhausting and

many staff members suffered from ergonomic-related issues, including carpal tunnel, from overused wrist joints.

Plant managers and engineers grew concerned watching the volume of incoming orders increase and the staffing numbers decline. Simply hiring a new crew would not provide an adequate, long-term solution to reduce the high turnover rate or the debilitating effects of overused joints.

## Robots to the Rescue

In the fall of 2003, Tony McGraw, manager and engineer for the White Castle plant in Louisville, Ky., and his associates attended the annual PACK Expo, a trade show featuring the most recent developments in the packaging machinery industry. In the search to obtain the most recent updates from packaging processors and supply chain experts, White Castle representatives were introduced to the team at ABB Robotics, a leading supplier of industrial robots.

Understanding the need to replace a depleting supply of manpower, ABB associates showed the White Castle team how the installation of the IRB 340 FlexPicker™ robot could help. Specifically designed to move objects quickly and precisely, FlexPicker robots feature high-speed flexibility that allows for the handling of more than 150 objects per minute. When used in a manufacturing environment, the device is mounted above the conveyor belt, which helps to maximize otherwise cluttered floor space. For White Castle, use of the FlexPicker opened up an additional 20 feet of space within the packaging area.

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The first FlexPickers were installed in the Louisville production plant in November of 2004. The productivity of the packaging center increased significantly as each of the two robots was programmed to package either two three-packs (six hamburgers) or club packs (16 hamburgers). While the robots increased the effectiveness of the lines, the quality of the production remained consistent as each system is designed to only select perfect objects that are suitable for shipping – all others are disregarded.

An apprehensive crew soon welcomed the incorporation of the robots. Understanding the issues that existed prior to automation, line workers were relieved not only to find that the rate of production would increase, but would also afford them more time to focus on their particular responsibilities without the worry of repeatedly preparing and conducting training sessions for new hires every six to eight months.

## A Lasting Effect

“The FlexPicker is a fantastic, high-quality product and exactly what we have been looking for to help us,” said McGraw. “Over the last five years, our business has undergone a great change and the responsiveness of the machine has allowed us to grow our business in servicing our customers.”

As the last nine decades have proven, the appetite of the American people has not ceased in the desire for a White Castle classic – and the passion will only continue to grow. The 62,000-square-foot Louisville plant, which is comprised of 197 employees and two automated production lines, produces approximately two million burgers a week. A third line will be installed in 2008, with additional FlexPickers to help meet production demands.

“The future for White Castle and ABB shows a lot of promise,” said McGraw. “This country has a genuine love for the food that we produce and I am confident

that our newfound partnership will ensure continued satisfaction.”

## > HIGHLIGHTS

- Prior to robots, the packaging area was the most labor-intensive workstation, requiring more than 200 employees to keep up with demand
- FlexPickers feature high-speed flexibility, allowing for the handling of more than 150 objects per minute
- Mounted above the conveyor belt, the FlexPickers opened up an additional 20 feet of space within the packaging area

