

Grayway

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**LEAPING FORWARD:
INSIDE KRAFT HEINZ'S
STATE-OF-THE-ART
PLANT IN IOWA**

WELCOME



Stephen Gray
President &
Chief Executive Officer

The food and beverage industry is continuing to evolve, driven largely by demands from millennials. This means food processors must respond.

In this issue of the GrayWay, we see how food manufacturers are tackling this challenge with a special focus on the new state-of-the-art meat processing and packaging facility for Kraft Heinz in Davenport, Iowa. Recently named *Food Engineering* magazine's 2018 Plant of the Year, the facility is recognized for its design flexibility, efficiency and advanced automation capabilities that effectively positions it for the modern food processing era and beyond.

BUILDING TOWARD THE FOOD INDUSTRY'S FUTURE

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A FOUNDATION OF SAFETY AND EFFICIENCY

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GRAY... WE'RE BUILDING

Buffalo Trace Distillery
Frankfort, Ky.



NEW PLANT ANSWERS THE CALL TO COMPETE GLOBALLY

How a new Kraft Heinz facility provides what customers want and the market demands

Significant changes in consumers' demands and rapid advances in technology are making this a most unpredictable time to be in the food manufacturing business.

In order to stay competitive, big food manufacturers are racing to provide what customers want by enhancing and expanding their own product lines and acquiring other brands that serve niche markets.

Dave Donnan, partner with [A.T. Kearney](#), a global management consulting firm, [told Area Development magazine](#) that his company's research found grocery store shoppers "are buying more in the perimeter area such as the deli, prepared foods, meat, and dairy as they seek fresher and healthier eating; center aisles where you find dry and packaged goods are experiencing losses."

Even as manufacturers face changes in the types of products consumers demand, they also must respond to rapid technological progress in labor-saving and supply chain tracking equipment. It's compete or starve: if your competitors are saving money with more efficient production at their plant, you had better upgrade yours.

Continuing advancements in automation are helping manufacturers cut costs. For example, when [CMC Food](#) built a new production facility in New Jersey, it [invested in egg-handling robots](#) that could put 144,000 eggs on pallets per hour.

“In the past, the workers would have to feed 10 dozen eggs at a time into the machine and also stack the finished boxes at the end. Now the robots handle the heavy parts,” Michael Culley, CMC Food’s president, told CNBC.

Kraft Heinz finds itself in this competitive environment. Its Oscar Mayer products had been produced at a plant in Davenport, Iowa, since 1946. But after [Kraft Foods Group and H.J. Heinz Co. merged in July 2015](#), the company conducted an extensive review of its North American manufacturing footprint. The conclusion: a new, state-of-the-art facility able to produce a variety of Oscar Mayer deli meat products in Davenport was in order.

In an article earlier this year, [The Wall Street Journal](#) described how at the older plant, “workers drove forklifts loaded with giant vats of ham, turkey and chicken parts on and off freight elevators,” while it would take “four rides between floors” for a turkey breast to be processed from raw meat into slices.

As part of the \$1.5 billion Kraft Heinz invested over the past couple years to upgrade its global manufacturing plants, the company spent more

than \$225 million on a new facility in Davenport, located on 70 acres in the Eastern Iowa Industrial Park, about 10 miles away from the older plant. As part of this greenfield project, Kraft Heinz built in modern innovations in safety and technology by moving all processes to one floor; separating raw and ready-to-eat products; and integrating Rockwell Automation software into the process and refrigeration controls.

Construction of the 382,000-s.f. facility took 14 months from foundation to first production.

The plant’s design was deliberately aimed at keeping it competitive for years to come, with flexibility built into its design and layout.

Answering consumer demand for natural ingredients, the new plant’s 12 packaging lines are producing Oscar Mayer products that are distributed across the United States. These include Deli Selects, the Natural No Antibiotics Ever line of deli meat, and Naturals — whose packaging features “NATURAL” in large block letters and promises the absence of artificial ingredients, preservatives, flavors and colors. The plant also produces a significant portion of the total U.S. Oscar Mayer Deli Fresh meat volume.



Michael Mullen
Senior Vice President of Corporate & Government Affairs
The Kraft Heinz Company

In another feature that meets the goals of both saving money and satisfying consumers’ desires for social responsibility, the new facility uses significantly less water, because of increased efficiency.

This fits with a companywide goal of reducing overall water use of 15 percent by 2020, said Michael Mullen, senior vice president of Corporate & Government Affairs.

Additional sustainability features in the new plant include:

- LED-based lighting, which requires less power and increases reliability.
- Windows, air conditioning and HVAC units that largely reduce energy consumption.
- A pretreatment system for wastewater that is discharged into the local sewer plant.
- Non-greenhouse and non-ozone depleting refrigerants.
- Buffalo grass in the facility’s retention basin to help filter water.

In Davenport, new technologies and optimized processes drive decreased energy and resource consumption. While not LEED-certified, the new facility’s windows, air conditioning, HVAC units and LED lighting significantly reduce its energy consumption. It will use less water than the previous factory because it’s significantly smaller and is more efficient.

“The \$1.5 billion-plus we spent over the past couple years upgrading our global manufacturing facilities – including the one in Davenport – was done to enhance our capacity for innovation and product quality,” said Mullen. “In 2016 alone, we at Kraft Heinz increased our capital investment in quality by 45 percent.”

This investment is positioning Kraft Heinz to compete more effectively in a rapidly changing marketplace — and for the long term.



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A FOUNDATION OF SAFETY AND EFFICIENCY

Advanced automation,
streamlined design launch
Kraft Heinz plant into the future

The goals of food safety as well as efficiency drove the design of Kraft Heinz's new state-of-the-art plant in Davenport, Iowa.

“Each detail of the facility was built to maintain and even improve Kraft Heinz’s already high standards of food safety,” said Michael Mullen, senior vice president of Corporate & Government Affairs.

In every plant that produces food, manufacturers work to prevent cross-contamination – that is, raw food coming in contact with cooked food that’s being packaged for sale. Cross-contamination leads to the possibility of bacteria growth that can hurt customers.

Kraft Heinz used the opportunity of designing the new plant to build in extensive safeguards against cross-contamination.

“The new one-story facility was designed for the highest level of efficiency. It advances food safety to a new level with complete raw and ready-to-eat separation,” explained Mullen.

Raw and ready-to-eat foods are handled in one building with separate entrances — and with physical separation between the two areas.

Each area has its own offices, locker rooms, restrooms, cafeterias, meeting rooms, docks and maintenance areas.

Also, lights, heating and air conditioning vents and fire protection devices were positioned to avoid being above food products, which removed the potential for them to contaminate the food.

Washing stations, including hoses and foam, are placed throughout the facilities, allowing





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—Debra Schug, Editor in Chief
Food Engineering

for easy access when cleaning equipment and surfaces of the buildings.

“These measures ensure repeated cleaning and sanitation for food safety measures,” Mullen said.

The plant also features a two-stage refrigeration system. Ammonia is used in a few small areas of the plant to cool glycol, which then goes throughout the plant to cool it. This keeps most of the ammonia in the mechanical spaces of the building, a design that is trending among modern food processors.

The glycol is food-grade — yet another example of the focus on built-in food safety features in the facility.

The new plant also makes greater efficiency possible.

“The company streamlined operations, moving from multiple processing and cooking methods in the original factory to a plant with a simplified production process,” Mullen said.

The one-story building features a one-way, flow-through operation equipped with smart manufacturing capabilities. Here’s how the process works:

- Truckloads of raw meat arrive at the plant.
- Food safety ingredients and flavoring are injected into the meat as it is macerated and ground.

- The meat then goes into a chilled tumbler that reduces the time needed for protein extraction.
- Next, the meat is moved into an Armor Inox system. Hot water flows into the tank to cook the meat, and cold water then flows in to cool it.
- In a slicing room, cooked meat goes into one end and comes out the other where slices drop into containers.

Additionally, the Kraft Heinz plant uses track-and-trace functionality, which tracks each ingredient that goes into a finished product.

“In terms of specifics, the Davenport plant’s design, layout and advanced technology allow for improved ingredient introduction and optimum conditions for processing food products end-to-end,” Mullen said. “The company significantly reduced the number of handling steps needed to process meats.”

Food Engineering magazine recognized the plant as its “2018 Plant of the Year,” with editor in chief Debra Schug noting that “due to the level of automation employed, as well as hygienic design elements and the innovation present in the processing and packaging lines, the Kraft Heinz plant truly is an example of the future food factory built today.”



A two-stage refrigeration system was incorporated into the new Kraft Heinz Davenport facility.



GRAY... WE'RE BUILDING

BUFFALO TRACE DISTILLERY

FRANKFORT, KY.

Due to increasing bourbon sales and tourism, Gray Construction was once again tapped by Buffalo Trace for two new projects. The first includes the renovation and expansion of their current mash house, and the second consists of transforming an existing distribution center into a new bottling hall.

Buffalo Trace's original mash house, the heart of the bourbon process where the cooking of the grains takes place, was built in 1946. The mash house project will double Buffalo Trace's capacity by focusing on a complete technology upgrade including new process controls and automation. With the facility located directly on the Kentucky River, Gray will utilize both a river barge operation to expand the structure and a tower crane to remove existing equipment

through the roof before installing new process equipment and piping.

The 100,000 s.f. bottling hall will include modernized bottling lines that will allow for more efficiency and capacity. Two additional buildings will house a packaging and processing area, a warehouse area, laboratory and office space.

Buffalo Trace has been making whiskey for more than 200 years, making it the oldest continuously operating distillery in America. The Sazerac Company, a producer and importer of alcoholic beverages based in New Orleans, bought the distillery in 1992.

More than 200,000 people visited Buffalo Trace in 2017, an 18 percent increase from 2016.

