

# Refrigerated & Frozen Foods

BUSINESS AND TECHNOLOGY SOLUTIONS FOR COLD CHAIN PROFESSIONALS



## 2014 REFRIGERATED FOODS PROCESSOR OF THE YEAR

**Redefining State-of-the-Art  
With Hands-Free Automation**





## 2014 Refrigerated Foods Processor of the Year



Photos courtesy of OSI Group.

(From left to right): Christopher Hansen, corporate executive chef; Kevin Scott, executive vice president, North America; B.K. Girdhar, vice president, product development and technical services; David McDonald, president and COO; and Mark Richardson, senior vice president, global supply chain.

# MEAT-ing Customer Needs, Day In and Day Out

**OSI Group is a customer-centric organization that brings scale, flexibility and brand integrity to the table.** *Marina Mayer, Editor-in-Chief*

**S**ince OSI Group opened its first family meat market in Chicago in 1909, one thing has remained steadfast—its unwavering dedication to its customers' success.

“We design our entire business

around our customers' needs,” says Kevin Scott, executive vice president, North America for OSI Group, LLC, based in Aurora, Ill. “They’ve entrusted us with their brands, and that’s a stewardship we take very

seriously. We have a select group of customers, which allows us to focus on understanding their unique needs. We look to form deep relationships—this creates a winning partnership mindset.”



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But, it's not just the winning partnerships that have allowed OSI to "meat" customers'—and consumers'—needs day in and day out. The global meat processor continues to expand globally, opened a new culinary innovation center, established a new supply chain global trading platform and its chairman and CEO Sheldon Lavin was inducted into the 2013 Meat Industry Hall of Fame. That's why OSI was named *Refrigerated & Frozen Foods' 2014 Refrigerated Foods Processor of the Year*.

### The world of food solutions

OSI is a concept-to-table, full-service processor of hot dogs, lunch meat, dried sausage and cook-in-bag items, along with a number of frozen applications for foodservice and retail. All products are produced on an as-needed basis, allowing for customization and flexibility.

"Over the last five years, we've re-tooled our organization to offer the speed and flexibility that we need to be successful in the marketplace today," Scott says. "And, it goes back to both the retail and foodservice channels, this need to move much quicker than we've ever had to in the past."

While the distribution channels continue to transform, so do consumers and their ever-changing needs. Convenience, for example, continues to drive consumer behavior, Scott adds. As a result, OSI offers convenient, fully prepared solutions, whether it be pre-sliced sausage or pre-cooked products ready to serve.

Portability is also a growing trend, as more and more people are eating on the go and in different places and at different times.

"Rather than having traditional meals where I can have my protein

prepared and served for me in a certain format, now it's about putting protein in a dough-enrobed item, for

instance, so consumers can grab it and eat on the go. Or, placing the protein in a wrap, so they can carry

### The Amick Farms Difference

It's all over the news—cattle prices are at a record high and beef prices continue to rise, as of press time, and will continue to rise or maintain higher-than-normal costs through 2014, according to economists. As a result, foodservice companies are looking for cheaper sources of protein and chicken, thus increasing demand for boneless items, says Ben Harrison, president of Amick Farms.



**Amick Farms, an OSI company, is a fully integrated processor of premium grain-fed poultry for retail and foodservice.**

Thankfully, Amick Farms, a Batesburg, S.C.-based division of OSI Group, provides what it calls "The Amick Difference."

Amick Farms is a fully integrated processor of premium grain-fed chicken breasts, thighs, tenderloins, drumsticks and individually quick frozen boneless breasts, wings, tenders and more for retail as well as boneless breasts, tenders, wings, thighs, drumsticks, whole legs, leg quarters and whole birds for foodservice.

"Being competitive in all the key performance measures on the live side of the business has increased in importance," says Harrison.

That's why the poultry processor continues to evolve with ever-changing industry trends. From a packaging standpoint, for example, Amick Farms migrated to the smaller sealed bags that now feature artwork and recipes.

"Many of today's consumers want to purchase poultry without ever handling the product," Harrison adds.

From a sustainability standpoint, Amick Farms' water usage stands at only 4.5 gallons per bird, against an industry average of 6 gallons per bird.

X-ray technology has also improved quality control and food safety.

"We are using enzymes in our feed to increase the bird's ability to digest all the nutrients in the feed and therefore, lower our overall feed cost," says Harrison.

Amick Farms also revamped its Contractor Safety Program to enforce training procedures in light of construction projects.

"We have implemented an Amick Farms Machine Safeguarding Project Team. This team's mission is to be proactive in finding areas where we can improve the machine guarding," Harrison says. "We also added computerized training systems to complement our in-person training program. The Animal Welfare, GMPs and Global Harmonized System videos have allowed us to more consistently communicate to our associates."

Amick Farms also continues to use commercial carriers for delivery, but is revamping its production systems to produce products to order, thus reducing the time carriers wait for an order to be completed.

Between packaging enhancements, sustainability initiatives and increased food safety measures, Amick Farms' culture of quality and performance certainly provides the Amick Farms Difference.



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it and eat it on the run,” Scott says. “The [distribution] channels have become so blurred that now it’s about how we as suppliers can support these evolving needs. How do we as manufacturers generate packaging that allows our food to be efficiently placed in every environment, whether it be a drug store, mass merchandiser, club store or a gas station or an emerging channel? Our packaging systems need to be robust enough to deliver that food experience regardless of the channel.”

That’s why OSI invested in new packaging systems.

“A lot of our packaging enhancements are driven by our demand creators, which in essence is our customers,” Scott says. “We find more customers looking for less ingredient line content, thereby requiring the product itself to shine more rather than be enhanced through artificial ways. But, they’re also looking for more individualized products. Personalization is key.”

### Fast Facts

**Company:** OSI Group, LLC

**Headquarters:** Aurora, Ill.

**Top Executive:** Sheldon Lavin, chairman, CEO

**No. of Employees:** 20,000 worldwide

**Distribution:** Global

**Channels:** 70% foodservice; 30% retail

**Annual Sales:** \$6.125 billion in 2013

Staying on top of trends also means introducing the right flavor profile in the right way.

“We have traditional carriers that now become vehicles for flavor delivery, i.e., burgers that were once just beef now have other toppings embedded within them to create that flavorful experience. The same with other carriers like meatballs and the like,” says Scott. “The reality is that the Millennials and even the next younger generation are looking for bold fla-

vors in a big way.”

To keep up with demand, in 2011, OSI opened a new Culinary Innovation Center (CIC) that houses chefs and food scientists who create, test and present new product concepts and then sends them down the street to OSI’s fully equipped 10,000-square-foot R&D center to produce on-site prototypes.

“Everything we produce is in essence built for a specific customer or customer’s need. We tend to forge deep and integral relationships with our customers. That fabric then creates the transparency and the alignment that drives us to meet or exceed their needs,” says Scott. “The CIC takes our core processes and creates miniaturized versions to get us products in a quick turnaround for the customers. It goes back to the whole theme of speed and flexibility. The CIC and R&D center are the catalyst to ideation, development and eventually the solution.”

Likewise, the ideation of new product development comes from balancing



OSI Group stays on top of trends by introducing the right flavor profile in the right way.



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OSI's capabilities against today's market trends.

"Recent advances in ingredients and packaging materials have enabled us to have cleaner labels and fresh-tasting product with longer shelf life," says B.K. Girdhar, vice president of product development and technical services. "We work very closely with the ingredient suppliers and use their expertise and pilot facilities to come up with prototypes and then test the performance through shelf life studies."

### One sustainable company for one eco-friendly world

What makes OSI unique is its ability to be all things to all people. For example, to maintain a safe and secure supply chain, OSI works with its vertically integrated partners from around the world to produce all of its raw materials. In fact, OSI owns and operates their own slaughter operations, chicken processing plants, feed mills and hatcheries in China and Europe, among other locales.

"What that allows us to do is really be a supply chain solution for our customers, not just simply a converter of that raw material and not just simply a designer of their products," adds Scott.

When it comes to sustainability, "we have to be more efficient with the resources we have, whether they be economic or supply chain," Scott says. "The word sustainability is a word that's used a lot to encompass a lot of actions that were being carried out before. But, it's also a word that rallies us to think about our impact in different ways. Once you focus on something, you can make results happen."

That's why in late 2013, OSI took the first step by announcing a new global trading platform. MPO (Meat, Poultry & Other) Global Trade, GmbH, located in Günzburg-Denzingen, Germany, will now operate as OSI's global trading platform,



To maintain a safe and secure supply chain, OSI Group works with its vertically integrated partners from around the world to produce all of its raw materials.

focusing on poultry products from Brazil and Thailand, for starters. MPO (an OSI Group company) will support both the primary processing and further processing assets in Europe and Asia.

OSI also has plans in place to tackle other sustainability initiatives such as reducing waste-to-landfill and water usage.

"We have developed several creative outlets for hard-to-recycle products to meet our goal of 90% by 2020. [Milestones have been set at 70% for 2013]," says Larry Glaser, assistant vice president and director of operations and process improvement. "Reducing water usage is another project we are working on, eliminating uses for water that can be achieved by a closed system. Examples are using glycol chilling systems to replace water-cooled hydraulic systems on equipment."

Through its corporate logistics team, OSI has applied cube optimization, intermodal transport and freight consolidation to save 8,200 metric tons of greenhouse gases from entering the atmosphere on an annual basis, Glaser adds. OSI also installed measures to control its energy costs.

"Installing measuring systems first and utilizing technology to bring our

data closer to real time and place is helping us address these opportunities more quickly," Glaser adds. "Our factory lighting upgrades are almost complete, and with an expected savings of around 5% of our energy bill, the ROI is quick. Using new controller systems, variable speed motors and other improvements on an aging refrigeration system will further improve our energy usage."

Other sustainability initiatives for the West Jordan, Utah, plant, for example, include its participation in OSI's zone-wide sustainability data management system, which tracks, evaluates and takes action on achieving its sustainability goals. Additionally, the West Jordan site was recognized by the American Meat Institute for its sustainability program standards and has received several of the highest safety citations in the industry for developing a safe and healthy workplace. (For more about the West Jordan plant, go to "Redefining State-of-the-Art" on page 36).

Regardless of the order, OSI brings customization, flexibility, speed and brand integrity to the forefront of all of its partnerships, which allows it to "meat" the needs of its customers day in and day out. **RFI**



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Robots transport product to and from one of the 15 drying houses (the first five cook, steam cook and dry and the other 10 just dry, no steam involved), where product spends the first weeks of its life.



Photos courtesy of Gallery Photography.

# Redefining State-of-the-Art

**OSI Group's West Jordan, Utah, plant features hands-free automation that's out of this world.**

*Marina Mayer, Editor-in-Chief*

**C**an you imagine a robot taking product from a refrigerated warehouse and transporting it to the packaging room? Can you also imagine the product not touching any human hands for a majority of this production process? While it may seem a bit futuristic for some companies, to OSI Group, it's just another day at the West Jordan, Utah, plant.

That's because this 101,000-square-foot plant gives a whole new meaning to state-of-the-art. One half of this facility runs virtually hands-free thanks to four robots who perform all of the heavy lifting. Couple the futuristic automation with extensive on-site food safety measures, and it's easy to see why OSI Group, LLC, Aurora, Ill., received *Refrigerated & Frozen Foods'* 2014 Refrigerated Foods Processor of the Year award.

### The future is now

The West Jordan facility is broken down into two segments—the older plant, sitting at 50,000 square feet, that produces raw materials and cook-in-bag products for foodservice; and the newer plant, 51,000 square feet, that produces pepperoni, hard salami and Genoa salami. Both plants share a wall and a 5-door receiving dock, however they operate independently.

At the time of *Refrigerated & Frozen Foods'* visit, the dry sausage plant was producing Genoa salami and pepperoni.

The newly redesigned dry sausage side is equipped with 2,800 underground magnets that steer the four robots along “highways” in the hallways. Each day, the robots are programmed to complete certain tasks. First, a robot takes an empty rack down to the stuffing room, where it loads up its 18-foot-tall rack with product and then travels



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to the cookhouse.

The meat undergoes the fermentation and cooking processes, and then robots transport it to one of the 15 drying houses (the first five cook, steam cook and dry and the other 10 just dry, no steam involved), where it spends its first weeks of life. Once the product achieves its necessary water activity level, moisture protein ratio (MPR) and other quality attributes, the drying houses convert to 32°F chillers.

“The drying houses rely heavily on ammonia refrigeration,” says Allen Forkell, Jr., operations manager, dry sausage. “You have conditioned air that comes out of the supply ducts to the product causing it to release moisture. That moisture rises up through the returns, goes against the cold coil, drops off the water, goes through a heating coil and then back out through the supply ducts. It just kind of keeps going through this process until the product dries. So, if we fill up one of these houses with 100,000 pounds of meat, at 14 days we could drop about 30,000 pounds of water.”

After the drying houses, the robots transport product into the ready-to-eat (RTE) production area, where it loads the rack up to a spiral transporter that spins around and empties the rods one by one. Dry sausage logs convey down into the processing area, where they come in contact with human hands for the first time. Here, operators manually check diameter, color and other quality control facets before placing the product onto a conveyor where the clips and loop are mechanically removed. The product then transports into an x-ray metal detection system. If it's a good sausage, it'll continue onward; if it's a bad sausage, it'll empty into a tub to be reviewed by QA.

Dry sausage then shuttles down

### Fast Facts

**Company:** OSI Group, LLC

**Plant Location:** West Jordan, Utah

**Produces:** Pepperoni, hard salami, Genoa salami, dry sausage and cook-in-bag products for foodservice

**Total Square Feet:** 101,000

**Distribution:** Global

**Certifications:** BRC

onto a scale that prints off an inventory ticket, complete with an ingredient statement, weight, production date, etc., sticks it on the box and pushes it into the docking area.

Each rack is numbered with a computer-generated tag that outlines where it's been, what rooms it was in, how much product is on the rack, where it's going, when the task was completed, etc.

“The robots are great for QA tracking,” says Forkell. “It's not like some of the older plants where you have big coolers or drying rooms that you push meat into trolley systems or with forklifts where tags may fall off or the product is hand-loaded onto other racks. This can possibly compromise the tracking system, and can lead to not knowing where the meat is or when it was

placed in the cooler. Here, we know where things are 24/7.”

The robots handle about 3,500 pounds of product at one time and come equipped with photo eyes on both sides, kickplates all around and garage door openers to get in and out of the drying rooms.

“We keep the doors closed to lock in the temperature,” Forkell says. “We also keep the lights off to help prevent oxidation. The robots don't need lights to work.”

The robots then hook themselves up to one of the four charging stations to re-charge when needed. The robots also feature sensors, so if the product starts swinging on the racks too much while in transport, the robot will slow down its speed and steady the product before moving on.

On the raw side of the newer plant, product shuffles in to a grinder that dumps out onto a conveyor and into a blender with spices, seasonings and other ingredients for 3-4 minutes. Blended meat conveys into one of two vacuum stuffers that stuff meat into shirred casings and applies two end clips and a hanging loop. The logs then convey under an x-ray machine that detects metals, foreign objects, etc.

Additional QC checks involve operators manually checking sausages



Blended meat conveys into one of two vacuum stuffers that stuff meat into shirred casings.



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for length, width and diameter while also checking the clips for tightness tolerance.

“We do a quality control test every 20 minutes, which consists of four different checks,” Forkell says. “The machine operator, QC technician, line lead and production supervisor perform checks on the product and enter the results in the database.”

After the sausage exits the x-ray machine, it is hung on the racks, nine sausages to a rod. This is the last time the product is touched by human hands. Then, a robot picks up eight rods (about 72 sausages) and puts them into one of the 18-foot-tall racks. Once the rack is full, it automatically transports to the cook-house. The robot also captures intricate data, such as the weight, the process order, times it picked up the racks and times it placed the racks in the houses, etc., and downloads it into the facility’s computer system.

### Cook-in-bag takes over

On the other side of the plant is the raw section, which produces barbacoa beef, pork carnitas and steak for foodservice.

At the time of *Refrigerated & Frozen Foods*’ visit, the 50,000-square-foot facility was producing 4,500 pounds of cooked barbacoa beef per hour along two production lines. The steak line runs five days a week with no line alterations.

Operators manually trim the barbacoa beef down to 0.25 inches and then pack it in 5-pound cook-in-bag pouches that travel through an x-ray system, which checks for bones, metal, glass,



The 5-pound pouches of barbacoa beef run through a flattener that helps pre-shrink the package for the restaurant.

etc. Then, the pouches run through a flattener that helps pre-shrink the package for the restaurant. From there, operators manually place the pouches on cook racks that hold roughly 1,500 pounds of meat per rack.

The meat racks are manually pushed into the cooking room, where a remote wireless crane picks up the pouches and places them into one of the eight cooking and/or chilling tanks. Barbacoa cooks for six hours at 192°F, then chills for three hours at 33°F.

Once the beef is cooked and cooled, the crane picks out the pouches and places them in cases that convey to the docking area, where they are ticketed and entered into the company’s computer system.

“We have spent \$5 million on projects, and every little detail out there is part of the customer relationship management,” says John Kelly, operations manager for the raw side. “This is a skilled labor job, not for just anybody off the street. These operators pay close attention to detail and have excellent trimming skills.”

The \$5 million upgrade also boasts a state-of-the-art bone elimination system.

“We have partnered with a com-

pany to develop an x-ray system that is capable of screening our raw materials before they are ground, thus detecting and removing foreign objects while they are larger and easier to find—and before they are ground into a million pieces,” says Larry Glaser, assistant vice president and director of operations and process improvement. “The benefits of the system include improved food safety, customer satisfaction and reduced equipment damage and downtime that may have resulted due to large objects entering the equipment. Most importantly though is the fact that we can screen product before blending it, so we can maintain the supplier identification on the results. We can show our suppliers, teach our suppliers and now hold them accountable for the defects we find in their product. This helps drive improvement and integrity, and in many cases, provides us with the data needed to make the best purchasing decisions for our raw materials.”

The West Jordan plant is also home to a leadership program, where some of the foremen get trained to move up the leadership ladder. (To learn more about some of the plant’s sustainability initiatives, go to “MEAT-ing Customer Needs, Day In and Day Out” on page 26).

Between hands-free automation and technologically advanced food safety equipment, OSI and its West Jordan facility redefine “state-of-the-art.” **RFI**

To view more photos from the plant tour, go to <http://bit.ly/1cMSPIA>.

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