PRIMARY PROCESSING

STEAK UNIFORMITY WITH AUTOMATION

SUWARN THINKS BIG

TRACEABILITY WITH INNOVA
With the acquisition in 2016 of MPS Meat Processing Systems, Marel has added a substantial portfolio of equipment and systems for primary processing to an already extensive portfolio for secondary and further processing. Now Marel Meat solutions reach all the way “from live animal receipt to finished pack”.

As Marel Meat we serve customers of all sizes with processing needs that vary from stand-alone equipment to total solutions. One great benefit of our combined comprehensive equipment and software portfolio is that we can supply equipment for all steps in the value processing chain – and add equipment and features to existing lines if a processing need arises.

In this issue of Insight Meat Processing we put a special focus on Latin America. Latin America is an area with many innovative food processors, with whom we have formed great partnerships. One such customer featured in this magazine is the Mexican beef processor SuKarne. SuKarne has installed both slaughter technology and deboning and trimming systems from Marel in a number of its plants, with impressive results. Another featured customer is the Brazilian pork processor Castrolanda, which has installed a DeboFlex system for the deboning of pork shoulders.

We are also pleased to introduce you to some of our new equipment and systems, such as the I-saw for frozen products and the M360 linerless labeler for wrap-around labeling.

We hope you will enjoy this issue of Insight Meat Processing.

DAVID WILSON
Managing Director
Marel Meat
With the addition of MPS Meat Processing Systems to Marel, we are now as Marel Meat also able to supply a vast array of equipment for primary processing of pigs and cattle.

**PIG SLAUGHTER LINES**
Pig slaughter lines are available for various capacities ranging from 40 up to 1,600 pigs per hour.

**PRE-SLAUGHTER HANDLING**
Efficient and gentle handling of animals pre-slaughter (animal welfare) is essential for excellent meat quality. Marel Meat is able to design the optimum stables and train staff in best animal handling procedures.

**STUNNING**
Marel can build and supply both electronic and CO2 gas stunning systems, and so provides the best solution based on customer demands.

**SCALDING**
We can supply various scalding solutions from vertical spray water scalding, condensation (vapor) scalding or the more traditional pull-through (bath) scalding system.

**DEHAIRING**
Marel Meat offers different types of optimally designed dehairing machines for specific conditions and capacities.

**CARCASS FINISHING**
After dehairing the carcasses are finished (drying, singing, washing, polishing) in order to achieve the most effective and clean skin.

**CATTLE SLAUGHTER LINES**
Cattle slaughter lines are available for various capacities ranging from 10 to 165 cattle per hour.

**EVISCERATION**
The evisceration area will be more- and more automated by the implementation of industrial robots (the M-Line). This is a development strongly based on optimizing labor use and maximizing efficiency, minimizing contamination and increasing the shelf life of the final product.

**CHILLING AND COOLING**
Marel supplies automatic systems for transporting carcasses to the equalizing rooms and assigning of carcass qualities to different storage areas.
After chilling the carcasses are sent to the deboning hall for a split into “primals” (ham- loin- belly and shoulder) typically deboned and trimmed according to customer specifications.

**PRE-DEHIDING, UDDER REMOVAL AND BUNG CLOSING**
For the carcass preparation steps as dehiding, udder removal and bung closure, we supply custom made working platforms, which can be automatically adjusted to allow an optimal position for every operator.

**DEHIDING**
All Marel dehiders have an upward- or downward vertical movement to prevent carcass contamination from the dirty part of the hide.

**EVISCERATION**
Our cattle evisceration work platforms have a custom made design and are based on optimizing ergonomic working positions, maximizing slaughter efficiency and minimizing contamination.

**CHILLING AND COOLING**
Most modern meat plants are equipped with chill tunnels and equalizing rooms. Marel’s carcass transport system to the equalizing rooms is 100% automated and does not require any operator intervention.
After chilling the halves are sent to the quartering area or the deboning for a split into “quarters”, typically deboned and trimmed according to customer specifications.

**GO TO:**
marel.com/meat
MAKING THE MOST OF ARGENTINIAN BEEF

As Argentina fully opened for beef exports at the end of 2015, an opportunity arose for a handful of beef processors to regain market share. The supermarket chain La Anónima has built a strong reputation as a beef processor at home, and now sees possibilities for further expanding into foreign markets.

La Anónima is the fourth largest supermarket chain in Argentina – with 161 stores throughout the entire country. Each store currently has its own butcher, but La Anónima is working toward a more centralized meat-production and cutting operation. According to Nicolas Braun, the CEO of La Anónima and the great grandson of the company’s founder, there is good reason to invest in automation. “While we still had the strong beef export regulations in Argentina, we put all of our efforts into creating stable and efficient beef production in our plants to supply our own supermarkets and the home market. Now we will also be able to work toward expanding exports, mainly to Germany and Israel. “The focus on supplying quality meat to the many La Anónima supermarkets still has high priority, however. “With our two meat processing plants we supply various cuts of beef and primals to the supermarkets, where they are further cut and processed. We want to make that process more efficient, which is why we also bought the StreamLine deboning and trimming system. This means that there is no need for extra trimming and cutting in the supermarket stores.”

NEW TECHNOLOGY IS A CHALLENGE

When La Anónima decided to bring in the new StreamLine technology, they knew it would be a challenge to change their production methods. “Implementing new technology demands a lot of commitment,” says Nicolas Braun, “but we felt that with Marel we had found a good long-term partner who would help us move forward. In fact, the cooperation with Marel – both here and in Iceland – is excellent. They have sufficient experience to understand perfectly what we ask for and what we need.”

THE SYSTEM PROVIDES FULL INSIGHT

Frederico Muniz, Slaughterhouse Manager at La Anónima, explains how the StreamLine system has provided a great deal of help in the production of end products. “The StreamLine system
allows us to get information about what is going on all the way through production. It provides us very accurate online traceability, per individual cut, without losing productivity."

After carcasses leave the cooling room they are cut down into quarters and large primals. In the process of cutting down the carcass, a barcode is scanned into the system for traceability. Every subsequent cut performed on the primals relates back to that barcode.

The implementation of the StreamLine deboning and trimming system was easily adopted by new operators coming into the factory, whereas those already working in the meat processing plan had a more difficult time “accepting” the new system. After some time passed, however, they all fully adapted to the system and see the benefits it brings. For example, results can now be seen while work is ongoing – instead of having to wait for the whole day of production to end – and adjustments and improvements can be made during the production process itself.

“We have seen that a traditional pace line system takes approximately 20% more people to work it,” says Muniz. “The StreamLine system is very labor efficient, and more ergonomic as well. The operators do not need to reach for the products – they are led directly to their cutting stations.”

GO TO:
marel.com/streamline-dt
marel.com/innova-meat

SMOOTH OPERATIONS COMBINED WITH SERVICE
At the same time as LaAnonima invested in the StreamLine deboning and trimming system, they also invested in a Marel Service Level Agreement (SLA). Frederico Muniz explains their service considerations: “Any company that invests in such a big and advanced solution as ours has to consider that they cannot save money by just keeping it as it is. They have to properly run and maintain it. Fortunately we have been able to work well with our equipment – and the need for maintenance and spare parts has been well managed.”
“Time is of the essence,” says Eduardo Walter, general manager at MasterCarnes. “Cooking needs to be fast and easy, so big kitchens, hotels and restaurants want products of the same size and same weight.”

LACKING SKILLED WORKERS
In order to create uniform thin beef steaks, MasterCarnes has installed a small but very efficient system in its production line. The system consists of an I-Cut 11 PortionCutter for cutting same-weight beef steaks and a Platino Flattener for flattening and softening the meat and standardizing the size.

“We installed the portion cutter and flattener because we had a lack of qualified workers to do the job,” says Walter. “With one machine we are able to cut what we would otherwise need 12 people for.”

ACCURACY IS ESSENTIAL
There are several benefits to the system – and labor savings is only one of them. Another major benefit is that the cutting accuracy is very high.

“When cutting by hand, the variation in weight is between 10%-15%, but with the machine we see an absolute maximum in cutting variation of 3%. This represents a huge value to us,” comments Walter. There are numerous other benefits, too, he says, including less need for meat storage as the result of quicker run-time, better hygiene, higher productivity and a uniform look and presentation to the final product.

ABOUT MASTERCARNES
MasterCarnes started out in the 1950s as a meat buyer and distributor. Later the company branched out to supplying portioned, boneless meat. Today the company is a pioneer in food service to Brazilian restaurants, wholesalers, supermarkets, hotels and industrial kitchens. MasterCarnes has four plants in southern Brazil, from where it supplies approximately 1,000 tons of meat – hamburgers, meatballs, sausages and portioned beefsteaks – per month.

GO TO:
marel.com/icut-11-meat
marel.com/platino-meat

High demand from the Brazilian food service sector for uniform-quality case-ready products has helped MasterCarnes to grow into a sizeable, successful meat supplier.
DEBONING AT
FRIGOSORNO IN CHILE

Four years ago the Chilean slaughtering plant Frigosorno was looking for ways to improve productivity, become more efficient and objectively measure its output. After introducing Marel’s StreamLine technology, the company has achieved its objectives and is now the only meat processing plant in Chile that provides individual-cut traceability with StreamLine technology.

Before investing in the StreamLine system, Frigosorno used a traditional, standard-pace deboning line. So it was a big change for the company to introduce StreamLine technology, which includes advanced software, weighing before and after each operator, primal cuts automatically delivered to each deboning and trimming station and in-line packing solutions. “StreamLine has been a great solution for us, because we can now measure productivity and performance in an objective way at each station and for each operator”, commented Andrea Köpfer, production manager at Frigosorno.

TRACEABILITY IS KEY
With StreamLine’s advanced Innova software, Frigosorno’s management now receives numbers, values, precision and performance for each operator in real time. This allows them to make decisions based on multiple measurements and immediate controls.

Each Frigosorno label contains valuable traceability information, including the ID-number of the individual animal the cut comes from, which operator worked on the cut, and which one labeled it, thereby improving traceability and food reliability.

ABOUT FRIGOSORNO
Frigosorno began operation in 1945. In 1978 it was acquired by Group Feria Osorno S.A., which today is owned by more than 400 shareholders. The plant has a deboning capacity of 400 animals per day and is authorized to export to Europe, the United States, Canada, China, Hong Kong, Japan and other countries.

GO TO:
marel.com/streamline-dt
marel.com/innova-meat
frigosorno.cl

Andrea Köpfer, Production Manager at Frigosorno
SuKarne thinks big:
A NEW PLANT

SuKarne recently built a new processing plant in Durango, Mexico. This new plant is part of a comprehensive agriculture site where adjacent feedlots hold approximately 250,000 head of cattle – dairy cows, steers, heifers and bulls. Because of the varying sizes of the cattle, SuKarne decided to build what’s known as a "cattle, multispecies, slaughtering facility".

To suit SuKarne’s particular needs, MPS Meat Processing Systems (now Marel Meat) designed, delivered and installed a high-speed slaughtering plant with a capacity of 165 cattle per hour.

The plant in Lucero includes a center track restrainer stunner based on a Temple Grandin design, a stand-alone knocking box with features on restraining heads, shoulders and animal lengths and a landing table according to the latest animal welfare requirements.

The hides-on department (i.e. the skinning floor) is equipped with a number of free elevating platforms that allow an operator to adjust his position depending on the work he’s doing on the animal in front of him.

The hides-off department (i.e. the evisceration floor) is equipped with several features that are unique in their design and never before seen in the Americas. The paunch-harvesting carousel, for instance, allows for up to four operators to fully eviscerate an animal and can be adjusted according to the length or height of the animal.

CONTROL SOFTWARE THROUGHOUT
To optimize and control operations inside the slaughter hall, SuKarne also installed Marel’s Innova Slaughter Control software. This software monitors and controls the slaughter process from the receiving of animals to their classification. It allows processors to control and monitor the slaughter process in real time while ensuring traceability and the execution of quality-control procedures. The software also enables data collection at key points in the process, such as:

- receiving of live animals
- sequencing
- veterinary inspection
- classification
- process weighing
When animals are received, a touchscreen terminal is used to update or record all information – including race, weight and grade – as they enter the slaughterhouse.

As the animals pass through the slaughterhouse, data continues to be collected at various collection points and used throughout the process. For example, at the point of veterinary inspection, the carcass is checked for blood spots and other defects or diseases. The veterinarian then assigns the animal to further slaughter or decides if it should be detained or destroyed.

In the cutting area, the split carcasses continue to be monitored via the Innova Slaughter Control software. In the classification terminal, the classification and weight of the animal is registered and the final slaughter label is printed.

Data from the entire production process can be made available on control screens and in slaughter reports. The reports typically include information about input/output registrations, the veterinarian’s remarks and carcass yields. The software also allows for full animal traceability, along with information on the day of production, shifts, production orders, lots and resource areas.

INNOVA SLAUGHTER CONTROL SOFTWARE

The general benefits of using the software in the slaughter hall include:

- connects to equipment including grading devices and rail control systems
- enables production decisions and planning downstream in deboning and trimming hall (StreamLine)
- provides real-time production information
- collects yield information from slaughter process
- exports data to other systems, such as payment systems
- integrates seamlessly with other modules

The Innova Slaughter Control software installed in the primary processing area at SuKarne’s Lucero plant communicates with the Innova deboning software installed in the secondary processing area (deboning and trimming) of the plant. Oscar Leal, SuKarne’s processing projects manager, explains, “With the Innova software it’s possible to trace products all the way to finished products. The software in the slaughter, deboning, and pack and portioning areas gives us the full overview. It is like we were blind before, and now we see things as they happen. And we can manage them.”
SuKarne thinks big: DEBONING EFFICIENCY AND THROUGHPUT

In 2011 SuKarne made a conscious and strategic decision to automate and upgrade their beef processing operations. As the biggest beef processor in Mexico and one of the biggest in North America, SuKarne wanted to expand to the rest of the world, especially to the European market. With the use of automation and highly advanced processing technology, the company is well on its way towards its goal.

“Even though our home market is very good and Mexico is our biggest market, we see huge benefits in being able to also supply the European market,” says Oscar Leal, processing projects manager at SuKarne. As part of the expansion plan, SuKarne has refurbished the deboning and trimming floors of several plants and built a state-of-the-art processing plant in Lucero, in the Mexican state of Durango. The directors and managers of SuKarne had previously visited an Irish beef processor, where they saw and experienced Marel’s StreamLine deboning and trimming solution. Highly impressed, SuKarne decided to implement similar systems in their plants.

ONE-PIECE PRODUCT FLOW
They decided to first install Marel’s StreamLine solution at SuKarne’s Mexicali facility. Their biggest challenge proved to be changing old habits and adapt to new methods.

Oscar Leal explains, “Seeing the results of the system is very convincing and the understanding of the traceability made the difference. Now even the ‘doubters’ have totally adapted and fully embraced the system. They are now a key to the success of the system.” Leal elaborates, “To fully optimize the new real-time work methodology, we have created teams of a supervisor, QC inspector and production controller for each line, who work together to improve and optimize on yield, quality and throughput – with great success.”

Before installing the StreamLine deboning and trimming system, SuKarne was working with pace line systems that had a limited possibility of controlling the flow and production. With the StreamLine system in place, up to 60 different types of products are processed in a one-piece orderly flow. This is the beauty of the system, according to Oscar Leal.

Javan Flores, a Marel systems control engineer, has seen a lot of production improvements over the past 12 months with the new deboning and trimming system. “Before investing in the system, we identified several opportunities for improving our performance, which have all been fulfilled. We have achieved full production control, substantial yield improvement, higher profitability, less waste, better ergonomics – and we have a very reliable and stable system.” These benefits are supported by production manager Irving Sosa. “We can constantly see the production figures...”
online in the Innova software systems and we can, at any time, generate performance reports. SuKarne Mexicali is doing very well in reaching the targeted throughput. So now we need to focus on efficient line speed and further yield improvement – even though we’ve already seen a big increase in yield. We want to reach a carcass yield of 82%, but we’re not quite there yet.”

**IMPLEMENTING A NEW PROCESS**
The Streamline system is ergonomically designed and the individual meat products are delivered directly to operators, along with task information that appears online on their station indicators. This gives operators a more stress-free work environment. Operators also see benefits in being able to monitor their own performances. “They can monitor their own performance against the line performance and against other individual operators. This actually motivates them to try to improve themselves to be better on the line,” says Javan Flores. “They take pride in being at the top of performance and featuring at the top of the list.”

**TEAMWORK IS EVERYTHING**
When working on big projects and changing systems and work procedures like at SuKarne, close cooperation between stakeholders is required. Oscar Leal has been part of the SuKarne projects from the beginning. “We have had – and still have – very good and successful cooperation with Marel and MPS Meat Processing Systems. I especially want to highlight the Marel process consultant, who, during the implementation period, was extremely good at helping with optimizing our production processes, improving our reports and helping with maintenance procedures.” Leal continues, “Oh, and let’s not forget service. Service is very important to us. Especially important to us is training, spare-parts and remote support, and trouble shooting. We have an extensive service agreement with Marel, including a system that allows remote access. This means that somebody in the Marel organization can log on any time and help us solve our problems.”

GO TO:
marel.com/streamline-dt
marel.com/innova-meat
FRONT-RUNNERS IN THE BRAZILIAN PORK INDUSTRY

In recent years pork has gained popularity in Brazil. Aiming to be the leader in slaughtering and processing of pigs, the Industrial Meat Unit installed Marel’s DeboFlex shoulder-deboning system in their brand new pork processing facility in February 2015. The Industrial Meat Unit, belongs to the Frisia, Castrolanda and Capal Cooperatives and markets its products under the Alegra brand.

The Cooperatives had previously heard about the DeboFlex but experiencing the system in operation at the facility of one of their Dutch customers really impressed them. “When we saw the DeboFlex in operation, we immediately realized that this was the innovative system we were looking for,” says Ivonei Durigon, the Unit Superintendent at the Industrial Meat Unit. The ergonomically designed DeboFlex improves the working condition on the cutting floor and makes it possible to cut more accurately.

MAKING SHOULDER DEBONING EASY
The DeboFlex system is designed for deboning both left and right pork shoulders – with one line for each side. Operations are carried out while the shoulder is hanging in the system, not while lying on a conveyor belt as with traditional pace-line systems. This prevents accumulation of products.

Also, deboning operations are split into separate tasks. As the shoulders automatically move down the line, each operator, positioned at his or her own workstation, carries out a simple, specific operation. “The operators have been very quick at learning the individual tasks they have to perform,” Everton Segatto,
Industrial Manager explains. “There is no need for skilled meat operators or butchers because the system is very easy to work with. One of our big challenges in the industry is that labor is scarce.”

A BETTER WORK ENVIRONMENT
Another challenge to food processors is that the Brazilian government has implemented some very strict regulations concerning ergonomics in factories. “Ergonomics is one of the key highlights of the DeboFlex,” Everton Segatto says. “It can be adjusted in several ways to accommodate the person at the station – with regard to height, resting support, speed, product positioning and so on. And of course it also makes a difference that the products come in a continuous flow. Operators don’t have to move the products around, which requires strength. So it becomes easier to employ both women and men on the line. Also the system flexibility allows for easy job rotation.”

A SMOOTH AND CONTROLLED PRODUCT FLOW
Left and right shoulders arrive at the DeboFlex lines directly from the carcass splitting area. The shoulders are then weighed and loaded onto the lines, where they pass through the various steps in the process – skinning, defatting, bone cutting and so on – until they reach the deboned and trimmed end-product stage.

A comprehensive logistics system integrated into the DeboFlex makes sure that offcuts – such as skin, fat, trim and bones – are automatically distributed via conveyors to packing, meat harvesting or further processing. This ensures an effective, smooth and controlled production.

GO TO: marel.com/deboflex

ALEGRA AT A GLANCE
The union of the Frísia, Castrolanda and Capal cooperatives, resulted in the Industrial Meat Unit and the quality brand of Alegra.

The brand is growing in Brazil and is now exported to more than 25 countries.
I-CUT 130 PORTIONCUTTER
Accurate portioning of meat made easy

With consumer demands evolving, food processors are seeking evermore technologically advanced portioning equipment and solutions to fulfill what is being asked for. As an example, the food service sector has taken to the portioning machine, with a move away from manual cutting of steaks, to ensure same weight and thickness.

KEY FEATURES FOR I-CUT130:
• Multi-language, user-friendly and intuitive operation
• Superior accuracy
• Full yield control - minimal giveaway
• Hygienic, easy-to-clean design

A CUT ABOVE
The I-Cut 130 PortionCutter uses a new vision system and flexible software to improve accuracy and optimize each cut of meat while reducing giveaway. Handling up to 1,000 cuts per minute, it integrates with Marel Innova Food Processing Software to enable remote programming and real-time monitoring and reporting. Customers are looking for machines that deliver accuracy and offer high levels of flexibility and the capacity to automate. Also consumer habits are changing from thicker to thinner steaks. This is a trend seen particularly in Europe in recent years.

REDUCE LABOR COSTS
Many elements of a meat factory are still quite labor-intensive. A lot of the work can be overtaken by advanced machinery, which often is more accurate; allowing the skilled workforce to benefit other areas.

HARDWARE
• Next generation laser and mirror vision system ensures greatest possible accuracy.
• Active product holder arms and back hold fork for efficient product stability during portioning process of round and odd-shaped products.
• High-speed portioning – up to 1000 cuts per minute.

SOFTWARE
• Powerful computer with innovative cutting capabilities and superior programming flexibility.
• Automatic, dynamic belt speed adjustment for higher throughput.
• Knife speed adjustable to suit each individual product.
• Intuitive, user-friendly and multilingual operation via 15” easy-to-operate touch screen.
• Remote programming and reporting abilities via Innova, Marel’s Food Processing Software.

GO TO: marel.com/icut-130-meat

The machine’s new vision system and flexible software provide superior portioning accuracy, while ensuring maximum optimization of each individual item of raw material, with minimal giveaway. This, together with numerous advanced cutting patterns, ensures maximum return on investment.
EFFICIENT BRAND PROMOTION
Wraparound labels make it easy to brand products with plenty of space to communicate essential product information and comply with all food-labeling regulations. The M360 labeler is designed for premium labeling of all popular tray sizes and is ideally suited for skin packs. It promotes premium shelf presentation of all pack types.

ENVIRONMENTALLY FRIENDLY
Using no carrier backing paper, the M360 labeler has zero backing paper waste. It offers improved efficiencies and volume applications with label reels that weigh 40% less than self-adhesive labels.

Other benefits include:
• More labels on a reel, fewer reel changes and less downtime
• Increased application speed
• Increased surface print area for brand management
• Consistency of format on-shelf
• Tamper evident for improved security and safety

AROUND THE PACK
New high-speed wraparound linerless labeler

Marel’s new M360 high-speed labeler employs the latest technology in flexible linerless labeling.

INTRODUCING I-SAW
Portion saw for boneless or bone-in frozen meat products

- Portions of constant weight or thickness
- Camera-vision scanning for accurate weight control
- Clean-cut product face, minimal smear and bone chips
- Remote service and support
- Maximum safety with enclosed product and blade

This high-output, automatic portion saw produces boneless or bone-in portions of constant weight or thickness. It is capable of producing up to 500 kg (or 1,100 lbs) of product per hour.

While it produces maximum yields from its ultra-high-speed band-saw blades, the I-Saw is able to maintain the weight accuracy of portions. It also produces a cut of superb quality – with minimal smear, bone chips or saw dust on the product and no tempering is required.

THE M360 LABELER HAS ZERO BACKING PAPER WASTE MAKING IT ENVIRONMENTALLY FRIENDLY.

FIXED WEIGHT OR CATCH WEIGHT
The M360 labeler is available as a stand-alone unit for fixed-weight packs or it can be connected to our weigh price labelers for catch-weight products. Setting up and changing labeling programs is automatic and easy to do, which makes for increased efficiency and less downtime.

GO TO:
marel.com/m360-meat
"RECEIVING THE AWARD FOR OUR V-PUMP IS PROOF THAT WE DEVELOP TRUE INNOVATIVE SOLUTIONS".

THE BEST INNOVATION
IN FOOD PROCESSING TECHNOLOGY

Forms up to 5,000 kg per hour of minced meat convenience products.

The new V-Pump (a V-shaped piston pump) produces, in combination with the RevoPortioner 700, up to 5,000 kilograms of high-quality red meat convenience products per hour. This new pump concept was launched at IFFA 2016, where it was awarded the “best innovation in food processing technology.”

David Wilson, Managing Director Further Processing, explains, “Receiving the award for our V-Pump is proof that we are developing true innovative solutions with the end-product in mind”. A good bite and an attractive mouth feel are important factors, which Wilson mentions are achieved with the V-Pump. “Two alternating pistons put uniform pressure to the forming unit and move the meat mass over a small distance with a minimum of pressure. This retains the original meat structure and texture as much as possible.”

FROM MEAT TO BURGER IN 30 CM
The traditional pumping of meat with an auger, via piping and/or a vacuum and higher pressures, leads to more shear and friction, and more damage to the natural meat structure. With the V-Pump, however, meat mass is gathered together only by the force of gravity. The meat sits right on top of the RevoPortioner 700 and the distance it has to move under pressure into the smoothly rotating drum of the RevoPortioner is very short: only 30 cm. This helps to retain the original meat structure.

GO TO: marel.com/vpump
Our Universal Fresh Sausage Line can produce, in a highly automated process, up to 36,000 fresh sausages per hour. It is also highly flexible and can pack a wide variety of sausages with either natural, prefab collagen or alginate casings.

The successful high-capacity Townsend 2800 Peeler has been redesigned to be more user friendly. It now has easily adjustable settings for production optimization and is built of robust materials and parts that last longer. It also has improved access for easy cleaning and maintenance.

As before, the Townsend 2800 Peeler can handle a wide variety of products, including very small sausages.

The majority of fresh sausages made around the world are made from pork. Fresh pork sausages – along with hot dogs and bologna – are among the most popular processed-meat products.

Our Universal Fresh Sausage Line can produce, in a highly automated process, up to 36,000 fresh sausages per hour. It is also highly flexible and can pack a wide variety of sausages with either natural, prefab collagen or alginate casings.

**SAUSAGES, ANYONE?**

**Efficient sausage peeler**

The successful high-capacity Townsend 2800 Peeler has been redesigned to be more user friendly. It now has easily adjustable settings for production optimization and is built of robust materials and parts that last longer. It also has improved access for easy cleaning and maintenance.

As before, the Townsend 2800 Peeler can handle a wide variety of products, including very small sausages.

It efficiently removes the inedible cellulose casing from cooked and chilled sausages without damaging the sausages themselves.

**NOW ALSO FOR PEPPERONI**

Marel has launched the Townsend 2850 Peeler, specially designed to remove the un-edible casing from pepperoni. Pepperoni is an American variety of salami, which sliced is mainly known as a pizza topping.

**SAVINGS ON CASINGS**

The Universal Fresh Sausage Line enables substantial savings on casings as it forms the sausage in individual portions, and cuts them into links that have an attractive, natural round shape. When a co-extrusion setup is used, savings on casings can be even greater, since casing gel is less expensive than natural casing or preformed collagen casing.

**OPTIMUM FLEXIBILITY**

The Universal Fresh Sausage Line is modular and can be expanded according to need. It allows for fast changeovers between different end-product types and the length and diameter of a sausage can be altered easily, even during production.

**SAVINGS ON CASINGS**

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**GO TO:**

marel.com/ufsl

- full range of fresh sausages in one flexible system
- inline, highly automated process
- suitable for different casings
- quality and yield control with integral Innova Food Processing Software
- savings on labor and casings
The German company Haas is a medium-size, family-owned company that supplies meat and sausage pizza toppings to the further processing industry. The company has installed Marel’s Trim Inspection System for the checking of bone fragments in their products.

“In addition to taste, product safety is one of the most important issues for our customers,” says Achim Haas, owner of Haas. “All of the products that are processed here are visually inspected by butchers. But to ensure that we remove absolutely all foreign material from the meat, we decided to install the Trim Inspection System.”

SEEING WHAT HUMANS CANNOT
Humans aren’t perfect, and even the most skilled, experienced operators can’t see everything with the human eye, including tiny bone fragments in the final product. But the Trim Inspection System’s X-ray capabilities ensure that bone fragments are identified and removed before the product is delivered to a customer.

“Using the Trim Inspection System, we have been able to find even more bones and bone fragments in the meat, thus increasing product safety,” comments Haas. “This provides added value for us and for our customers.”

GO TO: marel.com/meat-processing/news
TRACEABILITY WITH INNOVA
FOOD PROCESSING SOFTWARE

Traceability is at the forefront of food safety. When a health or safety risk is suspected or identified, it is vital for authorities and meat processors to have the capability to trace the problem back to its source, swiftly isolate the problem to prevent contaminated products reaching consumers and provide accurate information to the public.

“Traceability is typically defined as the ability to track any food, feed, food-producing animal or substance that will be used for consumption, through all stages of production, processing and distribution” says Saevar Birgisson, Innova product specialist at Marel Meat.

Applying traceability procedures reduces the size of recalls and supports the complete value chain. Meat products registered in the Innova Food Processing Software can be traced back to its source. Innova uses various data collection points to link meat products together into one traceability chain. This traceability is key in reassuring customers about the quality and safety of food products.

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marel.com/traceability

Traceability across the complete value chain with GS1 Standard

Innova Food Processing Software ranges from simple device control solutions, to a total full factory control solution. It ensures reliable data collection, and so provides full traceability throughout the system. It also includes real-time monitoring of key performance indicators (KPIs) such as yield, throughput, quality, capacity and labor efficiency.

DON’T MISS IT
Each year Marel Meat participates at a number of events and exhibitions around the world.

During first half of 2017 you can meet us at the following exhibitions:

<table>
<thead>
<tr>
<th>Exhibition</th>
<th>Country</th>
<th>Dates</th>
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</thead>
<tbody>
<tr>
<td>ExpoCarnes</td>
<td>Monterrey, Mexico</td>
<td>Mar. 1-3</td>
</tr>
<tr>
<td>CFIA</td>
<td>Rennes, France</td>
<td>Mar. 7-9</td>
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<tr>
<td>VIV Asia</td>
<td>Bangkok, Thailand</td>
<td>Mar. 15-17</td>
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<tr>
<td>AgroWorld</td>
<td>Tashkent, Uzbekistan</td>
<td>Mar. 29-31</td>
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<tr>
<td>VIV Russia</td>
<td>Moscow, Russia</td>
<td>May 23-25</td>
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<tr>
<td>LiveStock Expo</td>
<td>Pasay City, Philippines</td>
<td>May 24-26</td>
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<tr>
<td>Propak Asia</td>
<td>Bangkok, Thailand</td>
<td>June 14-17</td>
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<td>FoodPro</td>
<td>Sydney, Australia</td>
<td>July 16-19</td>
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<tr>
<td>TecnoCarne</td>
<td>Sao Paulo, Brazil</td>
<td>Aug. 11-13</td>
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GO TO:
marel.com/meat-processing/events
MEAT SHOWHOW
AT PROGRESS POINT

Each year in March we host the Meat ShowHow, demonstrating our meat processing equipment and systems in our demo and training center, Progress Point.

- Discover the latest developments in processing technology.
- See complete systems with ongoing live demonstrations in a hands-on environment.
- Learn how automation can help optimize production and yield, increase food safety and innovate end-products.
- Meet our specialists and network with colleagues from the global red meat industry.

Visitors come from near and far to the Meat ShowHow – and are truly impressed with the set-up and the many systems and applications they can experience at the facility.

Lines on display include deboning, trimming, fat analysis, bone detection, grinding, mixing, sausage making, hamburger forming, cutting, marinating, packing, labelling and checking of final packs.

With primary processing now also onboard, we can expand the lines to also include processes from live animal receipt and slaughter.

Progress Point is located in Denmark, only 5 minutes away from Copenhagen’s Kastrup Airport.

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Marel is the leading global provider of advanced equipment and systems for the fish, meat and poultry industries.

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