

ADVANTAGE

MEAT PROCESSING



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Increasing the selection of cuts into highest price products and reducing red meat loss

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MEMBERS OF MAREL FOOD SYSTEMS



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Food system companies united

European competition authorities have approved Marel Food Systems' acquisition of the Stork Food Systems division of Stork N.V. The two companies had announced an agreement on the acquisition, subject to various conditions, in November 2007. These conditions were met in May 2008.

For the foreseeable future, Stork Food Systems and Marel Food Systems will continue to operate independently as before, while continuing our almost decade-long cooperation on a project basis and on product development. Changes in our respective markets will therefore be minimal. Both companies will ensure stable operations in our core fields and we will continue our close collaboration with customers.

Marel and Stork have complementary product portfolios with virtually no overlap. Many of you will find that our systems work together and complement each other in production. In meat processing, for example, Stork Townsend's skinning and deboning machines are a perfect complement to Marel's complete slaughter and cutting lines.

We expect to further improve on the integration of these and similar systems now that we are joined in one company. Sharing our technology will become much easier. You, our customer, will certainly benefit from this.

What is more, a much larger international network of experts is now available to you, covering a large range of core production processes in fish, meat, poultry and dairy products. And the fact that we belong to one company reduces your need to involve multiple parties in your projects, thus reducing your project risks.

The acquisition will not change our market approach. Nor will we deviate from our customer-oriented service and innovation strategy. These elements will continue to be the pillars of our future operations as we expand the range of products and systems we offer.

We look forward to continuing to work closely with you in the years to come.



Hordur Arnarson, President and CEO of Marel Food Systems



Theo Hoen, Vice CEO of Marel Food Systems





Monitor, measure, maximize

– introducing Streamline, Marel Food Systems’ new trimming and deboning line

3

As consumer demand for convenient, easy to cook food increases, so does food processing companies’ need for machinery that increases efficiency and allows for custom made meat products. The market for top price products, such as pret a decoupé (PAD – or ready to slice) products has seen continued growth in European countries over the past few years.

In order to meet the changing demands of the market, Marel Food Systems has recently introduced StreamLine, a new intelligent trimming and deboning line.

Continuous innovation

Food processing companies have approached Marel Food Systems with the need for a line that will not only enable them to maximize selection of cuts into highest price products, but also minimize red meat loss. They have also emphasized the need to monitor and measure individual and overall performance factors.

Additional research has shown that food processing companies in general look for more efficient ways to reduce yield loss, increase production flow per operator and improve production logistics.

Marel Food Systems’ new trimming and deboning line takes all of these aspects into consideration. StreamLine is specifically designed to maximise yield, throughput and quality. It achieves this by automatically monitoring the various stages that the product raw material goes through during processing. These include splitting, deboning, trimming, skinning and touch up.

Intelligent production control

StreamLine is controlled by Marel Food Systems’ production control software, Innova – which operates seamlessly together with the line control system to ensure successful operation and data collection.

Innova controls and monitors every step of the production process on the factory floor. This includes reception of raw material through to dispatch of the finished product. Innova ensures that real-time data are at hand at any given point in time during the production cycle. The built-in traceability mechanism ensures that all product information is registered throughout the whole production process, making recall easier if needed.

Highlights

- Real-time performance monitoring
- Increased yield and better quality
- Flexible production to customer specifications
- Compact and easy to clean

For more information go to www.marelfoodsystems.com



The most advanced methods and technologies have been implemented at Prima Jaeren to ensure best possible meat quality.



Online monitoring of each individual operator with real-time control of the output and product flow.

The best tasting pork ever

When meat processor Prima Jaeren set the goal of producing Norway's best tasting pork, they implemented a new production method and built Norway's most modern pork processing plant in Stavanger. A complete intelligent deboning and trimming system from Marel secures maximum yield control and traceability, right down to each individual cut.

4 Music gives excellent meat

The motivation that drives Prima Jaeren is the desire to make the best tasting pork possible. Prima Jaeren sells its meat to the finest restaurants in Norway. "We basically asked the top chefs what it would take to get more pork on the menu in their restaurants," Factory Manager Harald Reime explains, and based on the chefs' feedback a number of initiatives were taken. These include that the pigs never have more than 1 hour transportation time to the plant; that they are given a special feed; and that music is played for the pigs on their way to slaughter. The music contributes to calming down the animals, which gives better tenderness to the meat. "Stressed and frightened animals give lower quality meat," Reime explains.

Need for maximum yield control

Because of these special initiatives the price for breeding the pigs is quite high. Therefore it was of utmost importance that Prima Jaeren got a deboning and trimming system which maximizes their yield. "The results from the new system have been impressive. The system was up and running from day one and we are already 25–30% above what we were hoping for – even without running at full capacity," says Reime.

The system monitors the entire production process, right down to each individual operator and each individual task – with real-time control of the output and product flow – ensuring excellent production results.

100% traceability

Another important issue for Prima Jaeren has been the opportunity to have full traceability on each individual piece of meat. "One of our goals is that the region where our new plant is placed is branded as a high quality food producing region and that can only be done by ensuring that all customers know exactly where the meat is produced. The new system gives us this possibility," Reime concludes.

For more information go to www.prima.as

"The system was up and running from day one and we are already 25–30% above what we were hoping for – even without running at full capacity"

Harald Reime, Factory Manager





Every cut is expensive without the right bandsaw

AEW Delford Systems are widely recognised as the leader in high speed, precision bandsaws for the food industry. These bandsaws are found in quality food processing facilities worldwide.

High blade speeds and increased motor power mean that the bandsaws can deliver improved cutting yields, accuracy, cut quality and hygiene. High blade speeds result in cleaner cuts without bone chips or splinters.

The blade guidance system and 'turn-to-stop' automatic blade tensioning allow the use of thinner saw blades producing higher cutting yields.

Blade changes are fast, with no need to remove table-tops or guides.

Drive wheels are precision machined, nickel plated and balanced to ensure quiet, vibration free running on high quality bearings and driven by powerful TEFC motors.

For more information go to www.aewdelford.com



5

350

For butchers' shops, supermarkets, high volume retail and general processing applications.



400

For high volume meat and fish processors, larger retail and catering butchers where accurate portioning is required.



600

For fast, high output primal cutting of lamb, pork, beef and veal carcasses.



900

For precision primal cutting of heavy beef and pork carcasses.



Turning information

Data collection objectives include:

- Eliminating manual data collection, paperwork and keying in of historical data
- Providing accurate and real-time inventory information about raw materials and finished products
- Ensuring consistent level of product quality
- Providing timely and accurate information to management
- Producing and delivering according to planning schedules

6



Operating the biggest pork processing plant in Romania, it is vital for Smithfield Prod to have reliable real-time processing information at all times during production.

In 2006 the Smithfield Prod processing plant in Timisoara was given a complete makeover, where everything except the outer walls had to be redone, including installation of equipment and computer systems.

The most comprehensive part of the project was the implementation of online data capture procedures at every transfer point of the production.

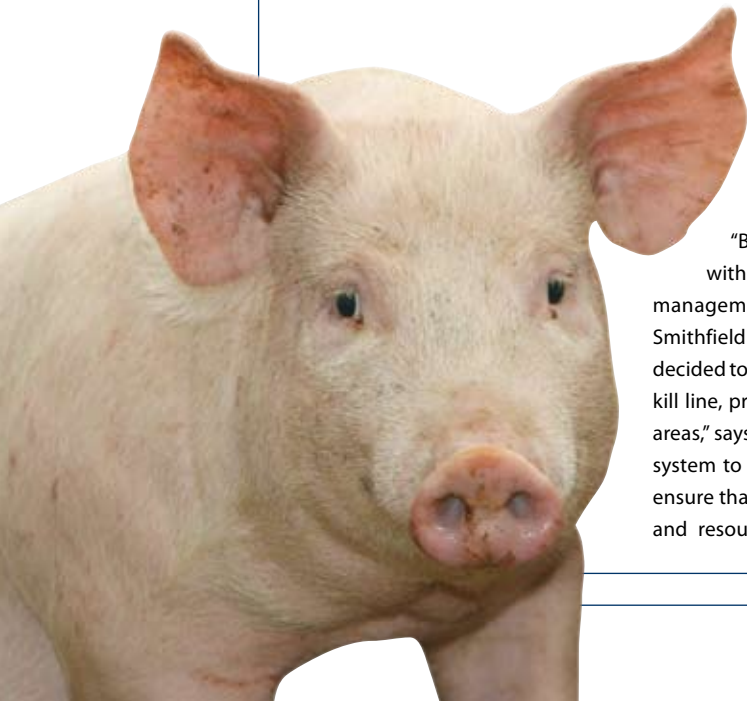
"Based on our positive experiences with Marel Food Systems' shop floor management system from Animex, [a Smithfield owned company in Poland] we decided to implement a similar system in the kill line, primal cut, de-boning and packing areas," says Morten Jensen. "We wanted the system to optimise our internal values and ensure that we do not use too much energy and resources on the various production



processes. And Marel Food Systems has been very perceptive and understanding to our ideas and challenges."

Production on a large scale

Low profit margins mean that processing companies have to monitor their production methods and yields very closely in order to rationalise their production processes and thus pinpoint the problem areas or potential growth areas. It is therefore important to obtain as much detailed processing information as possible – which is where a shop floor management system is essential.



into profits

The Marel Food Systems data collection system is designed for companies that need real time overviews of their production processes to ensure close monitoring and tracking as well as to deal with changes in production orders. Detailed knowledge about what is happening throughout the production process makes it possible to intervene at the right time – with the right decisions.

Using experience from colleagues

“Initially we had a dedicated Marel Food Systems person on site for the installation and training of the people here.” says Mihai Milchi, project manager at Smithfield Prod. “Now we benefit quite a lot from the know-how of our Polish colleagues at Animex – because we are using the same Marel Food Systems set-up and costing software. The

dynamics in the market mean that we need a system with a lot of flexibility as we need to be able to make changes to the system set-up. This, however, sometimes requires support from Marel Food Systems – but can also be done via remote control!”

Ensuring constant up-time

Mihai Milchi adds “It is crucial that the system delivers data in real time in order to be able to take quick decisions. Therefore, as a preventive measure, we have signed a service agreement with Marel Food Systems.” He continues, “We have dedicated Marel Food Systems specialists available – even over the weekends and holidays. This means that we avoid expensive production stops, because we always have spare parts in stock and a service technician at hand.”



Project Manager at Smithfield Prod, Mihai Milchi.

We wanted the system to optimise our internal values and ensure that we do not use too much energy and resources on the various production processes.

Morten Jensen, CEO at Smithfield Prod



Smithfield prod

Current processing capacity at Smithfield Prod in Timisoara is 300 pigs per hour. Target capacity per hour next year is 600 pigs per hour on the de-boning line, bringing the annual processing capacity to approximately 3 million pigs.

The Smithfield Prod facility has its own rendering facility for making offal into bone meal and pet food. Additionally, a huge water treatment plant has been added to the production facility where the re-circulated water is treated biologically.

Smithfield also owns a 50% stake in Agroalim Distribution, one of the largest distribution companies in Romania. This has played an important role in successfully winning market share in the country, compared with other EU suppliers.

For more information go to www.smithfield.ro

Microwave technology has reduced defrosting time at Findus AB from 24 hours to a few minutes.



The highest degree of flexibility

8 Swedish Findus AB has experienced a growing demand for their high quality single portion grocery products – frozen foods and ready meals. This has called for the introduction of more flexible production methods at their Bjuv factory, including a complete mixing and frying line from Carnitech.



Apart from the advantage of a capacity increase of approx. 20–35 tons of meat products a day, the fully automated Carnitech mixing line has made production far more flexible than before. “The most important ingredient in our products is quality. Thanks to recipe control and integrated online fat analysis, achieving a consistent, uniform quality in our various meat products has become an effortless task,” says a Findus processing expert.

Optimum utilisation of equipment

In the production of meat balls and hamburger patties, for instance, it is important to keep the fat percentage and temperature constant.

Findus’ processing expert continues, “The introduction of fat analysis in our production allows us to use the frying equipment to its full extent and in doing so obtain the best yield. The system offers great potential in terms of using meat with varying fat content.”

Reduction of defrosting time

Raw materials for the meat line come in frozen blocks. Microwave technology has effectively reduced defrosting time from 24 hours to a few minutes, meaning that the daily variations in production demand can be met. At the end of the day, if Findus need to produce more than originally planned, they can easily adjust the production.

Ergonomic design

The Carnitech mixing line eliminates the strenuous work that employees were

previously exposed to in the unpacking area. Entire pallets of meat blocks are automatically elevated for the operator to simply push onto the weighing table using a moveable bridge piece.

Turnkey solution important

“The single most important reason why we chose to buy from Carnitech was the turnkey concept for which they are known. Since we have no technical department of our own, it is very useful to have a supplier that accepts responsibility for the entire production line, and on whom we can rely for quick – and flexible – assistance,” the spokesperson from Findus concludes.

The most important ingredient
in our products is quality



Yield control

The meat industry is experiencing pressure from customers for lower prices as well as better and more uniform product quality. At the same time, competition is increasing because of globalization and companies merging.

Profit margins are under such pressure that it only takes small "mistakes" before black figures turn into red.

In order to survive in this competitive marketplace the implementation of information technology for process control and automation is an absolute necessity.

Monitoring and controlling profitability

One of the most common drivers in monitoring and controlling the profitability in a meat company is yield management.

Since 70–75% of the cost of the final product stems from the raw material, it is vital to closely control the actual

yield against the expected. Even very small deviations in percentages between the actual and the expected yield can have a substantial financial impact on the profitability of the business because of the ever increasing tonnages being processed.

By implementing a reliable real-time yield management system many meat companies can improve profitability significantly. A 1 to 2 per cent increase in yields on the high value primary product would in many cases mean a payback time for the implementation costs of less than 18 months.

Innova, Marel Food Systems' production control system includes a Yield Control and Monitoring Module allowing real-time monitoring of the yield, which gives the possibility of due-time intervention, should the actual yield deviate from the expected.

Innovation at Jutland Meat A/S

Jutland Meat in Struer in Denmark, is a young, internationally oriented company. Founded in 2005 and specialised in the production and sale of pork, the company realised a turnover of € 65 million in 2007.



Jutland Meat A/S offers a fresh and innovative approach to markets and customers. Its focus is on creating value, which management describes as "creating profit opportunities for their customers and developing solutions to their customers' bottlenecks."

Jutland Meat A/S is active in business-to-business markets and focuses on niche customers, especially in retail segments and the meat processing industry.

"After our main production stream had been put in place, we invested in new de-boning and packing facilities," says Frans Stortelder, Managing Director of Jutland Meat A/S. "On-line management information on goods flow, as well as material yields, is an essential tool for effective management. We had already taken the decision to invest in a Scanvaegt weighing system, but after they entered into cooperation with Marel we were offered the Innova software."

"In many ways the Innova software is a perfect match for our original aim to have on-line management information and easy access. Production management, as well as sales and logistical planning, benefit from the new system. The Innova software distinguishes itself through its easy access and a high level of customisation," Stortelder concludes.

For more information go to
www.jutlandmeat.dk



Labour saving portion and pack system

Providing first class fresh and processed foods to the UK food retail, manufacturing and service sectors is a cornerstone of Cranswick Country Foods' business. "Our customers quite rightly measure us on the quality of our product and service, which means we have to stay ahead of the game to provide the best ranges of produce," says Jonathan Healy, Cranswick Plc's Retail Manager.

The drive for continuous improvement recently led Cranswick Country Foods to make a major investment in new meat processing equipment from Marel Food Systems. The company chose Marel's 'Portion and Pack' system, which consists of the well proven OptiCut volumetric portioning machine, combined with the labour saving Quickloader. The system delivers fixed-weight pork steak portions directly into trays ready for sealing and packing.

Efficiency with consistency

The improvements in production have been remarkable. The high precision OptiCut has ensured excellent cutting accuracy, optimising the portioning process and delivering a significant increase in yield.

It is the same with 'giveaways', which have been reduced with no loss in quality of the finished steak. In fact, with the machine's built-in feedback system, which constantly adjusts the cutting, the presentation of the steaks has improved. "The equipment has made the presentation of the cut face very consistent throughout the loin. It enables 'brother - sister' packing all the way through the loin, giving a high quality look and feel," Jonathan Healy explains.

The other major benefit has been experienced in the area of 'leakage' which occurred during manual packing of the steaks into trays. "Although the operatives had new gloves every day, during the handling process the proteins and fats would build up on their gloves and eventually contaminate the sealing part of the tray," Jonathan Healy explains. "Now the OptiCut packs

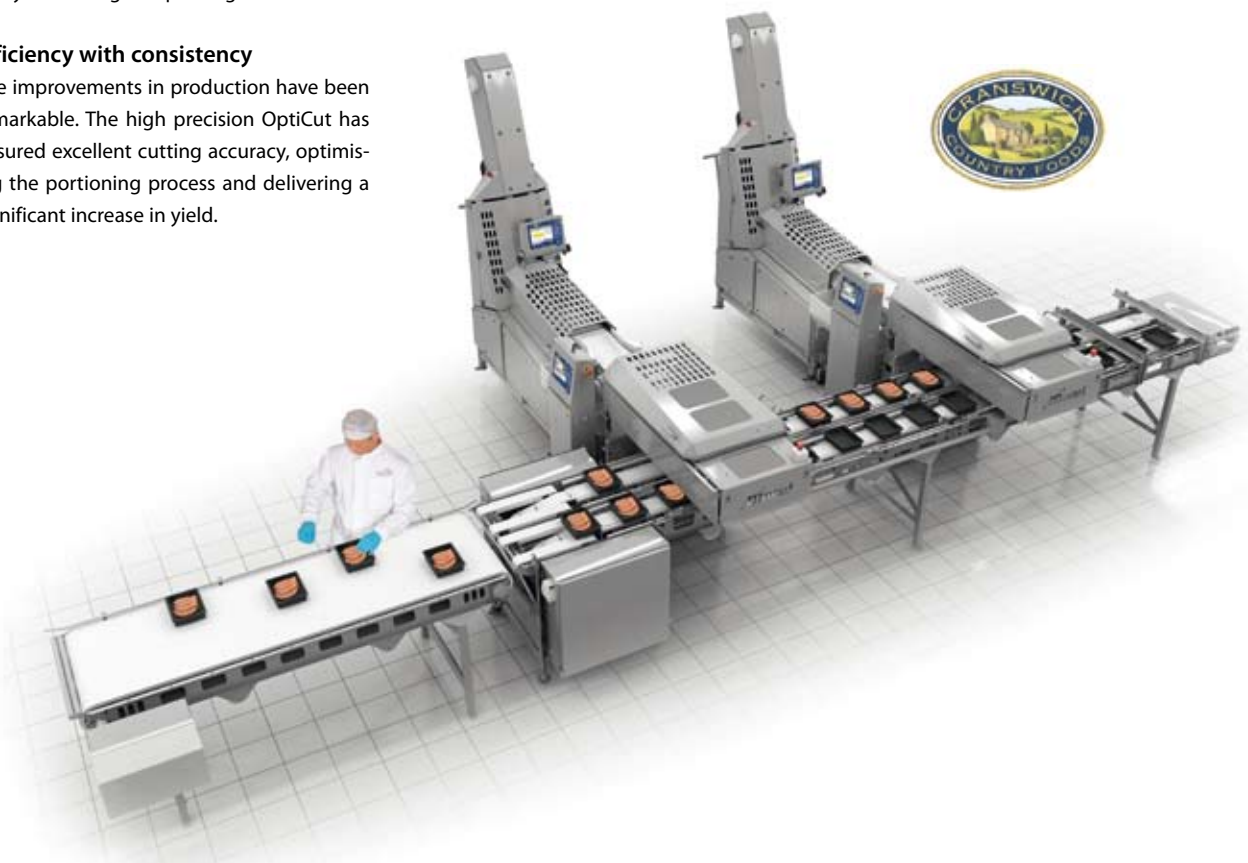
the steaks into trays without the need for human handling, so our leakage has virtually disappeared."

Although technically advanced, the equipment is very easy to operate. Cranswick were able to reduce the number of staff on the line from six people to two.

Reliable and friendly

"Marel are probably one of the best partners we have in the industry," says Jonathan Healy. "I went over to Iceland to meet the design and manufacturing team. They are keen to provide solutions and nothing is too much trouble. Having installed the first machine, they wanted to modify the second one to fit into a smaller floor space in our factory. It all went without a hitch."

For more information go to:
www.cranswickfoodgroup.co.uk





Marel Food Systems' expertise in cutting Premium Angus Beef, ensuring the best possible utilisation of the meat, convinced Beak & Johnston that they had to take a look at the ScanPortioner B55.



Excellent cutting of Angus beef



Beak & Johnston is a large Australian supplier of meat portions, 2-3 tons per day, to domestic restaurant chains as well as major retailers, and also for export primarily to Hong Kong and Japan. When the company began refurbishing its Sydney plant it agreed to put a ScanPortioner B55 portion cutter on trial for a few weeks.

Chief Operating Officer Ricky Taylor at Beak & Johnston recalls, "We got a visit from one of the sales managers from Marel Food Systems, who impressed us by telling us how to automatically cut Premium Angus Beef to the maximum on a portion cutter – even taking into account the extra fat content in the outer part of the primal." Beak & Johnston decided to test the machine in the plant. "We set and agreed to a number of predetermined goals for the machine," he continues. "We agreed that if these were met, we would purchase the machine." The goals were recorded and signed and project managers from Beak & Johnston and Marel Food Systems were appointed.

The list of goals that the machine was required to deliver included labour savings, yield savings and a reduction in repetitive strain injuries.

The reduction of such injuries from cutting portions by hand was a key driver in Beak & Johnston's decision to purchase the new equipment.

The goal of the yield saving was easily reached – the result is probably 50% better than anticipated.

Program set up for Premium Angus Beef

The installation and training went very well. "We had a program set up specifically for the cutting of Premium Angus Beef" Ricky Taylor explains. "The B55 gives us unbeatable results on this particular type of meat. The fat content in the meat cannot be seen which makes it hard to "guess-timate" where the cut should be made. With the extra fat content in the first part of the primal automatically being allowed for we see some very accurate weight results."

Trial results exceed expectations

In the time since the ScanPortioner B55 was installed, the machine has fully proven its worth. We were impressed," says Ricky Taylor. "With the results we have seen the payback time for the machines is 30% shorter than anticipated. The goal set for yield saving was easily reached – the result is probably 50% better than anticipated."

"Product quality has improved by 25% and the actual head count reduction was exceeded by 30% as a result of the increase in productivity, as well as other benefits."

Taking ownership of the machinery

Ricky Taylor explains, "The ScanPortioner B55 is very user-friendly and effective – giving high volume. The operators are very happy with it. What we have done – and what I would definitely recommend others to do – is train one person to use, program and maintain the machine. This person is made responsible for the machine and it is regarded as 'his'. That has been very valuable to us – as there is a person who takes on a sense of responsibility for the machine."

Chief Operating Officer, Ricky Taylor



A service partner that focuses on your results

Marel Food Systems' mission is to be the best-in-class organisation that expands and adapts in step with our customers' changing requirements. This mission is based on the strength of our product range and a continual dialogue with our customers.

Our organisation provides professional service solutions to the food processing industry worldwide. We have more than 300 trained and certified field service engineers, directly employed in over 30 countries across six continents.

With more than 1,000 on-site interactions with customers every day, we have built up a unique

insight into our customers' different production environments and processes. Based on this insight we have compiled unparalleled practical know-how about how best to tackle the demands and challenges our customers face.

Our service products are arranged in a modular structure that gives you maximum flexibility in putting together a customer service and support package tailored to your exact requirements.

Local knowledge, global reach

- A service organisation with global reach, combined with local focus
- A customer-oriented organisation with 24/7 access to expert help
- Spare parts inventory and an efficient supply chain that spans six continents
- Knowledge of different production environments and processes
- Clear framework that assigns unambiguous roles and responsibilities
- Fast resolution of problems and greater management awareness
- Highly trained field service personnel whose skill sets are constantly updated



Did you know?

More than 75% of all unscheduled interruptions to food processing operations can be directly attributed to human error due to a lack of familiarity with the processing equipment, incorrect operation, poor maintenance and carelessness.

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