milking parlours

SUPPLEMENT

International Dairy Topics

The next generation embracing robotic milking systems

Lely Atlantic, UK

A new generation of dairy farmers are embracing robotic milking systems. Whilst they will have their own set of specific individual challenges, they will be in a position to build on experience in order to handle them. The same approach applies to dairy farmers, who in recent years have developed into modern business managers.

It is 25 years since Lely launched the first ever robotic milking system, an occasion which has led the company to roll out Celebrate Generations. The initiative is designed to help support these up-coming producers in making choices for themselves and their farming business' long-term goals. It includes the #nextgenmilkers ambassador programme.

George Lester is amongst Lely's #nextgenmilkers; he has grown up on the family's dairy unit and that's where he sees his future.

"We are extremely fortunate that both my father and I are on the same wavelength, we are both forward and technical thinkers, we get on extremely well and have strengths to complement each other," explains George who farms in partnership with his father Jeff and mother, Judith. "We have a joint vision of where we want to go."

That long-term future lies in completing a £1m greenfield site development by the end of the year for up to 250 cows based at Manor Farm, Lea

From left, George and Jeff Lester.

The Lester's greenfield site development.

Brockhurst, Shropshire. It will feature three robotic milking systems and a robotic feeding system, whilst calves are fed through a computerised feeding system. Last month, part one of their ambitious plans was completed – they relocated their 70 cows from the old steading to the new site, complete with one robotic milking system.

"Our move towards automation will reduce the reliance on outside labour so that I will eventually be able to manage 250 cows myself with say one person's help, rather than have to depend on three members of staff," he explains. "We are insulating ourselves from a labour shortage."

Dairy farming hasn't always been at the fore of George's career plans. Whilst he spent a year on the road working as a dairy inseminator, he graduated in pharmacology. "Spending time in a lab and working for someone else wasn't for me; growing up on a farm, I was aware of the lifestyle and being my own boss brought that flexibility conducive to family life."

His decision was cemented when the family agreed to invest in total automation. "Apart from taking away the twice daily grind of milking, robotic systems offer that 24/7 attention to detail, for example if mastitis is identified during a milking, the milk is separated and the system is completely washed. Robotics enable us to monitor the entire herd remotely wherever we happen to be in the world, and they remove the human error that can creep in particularly when there are changes among casual staff. We also think it is becoming more important to consumers that milk is produced by happy, healthy cows and that's what we are able to provide.

"However, these systems still require good stockmanship; we spend more quality time with our cows and know more about them than ever before, whilst we also consider them to be more relaxed being milked in the robot than in a parlour."

George grew up with a robotic milking system at Manor Farm. The Lesters were amongst the first in the area to invest in a Lely Astronaut robotic milking system nine years ago. They had planned to move the existing business with 70 cows to a new unit using the entire proceeds from the sale of redundant farm buildings for development, Jeff explains.

"Once George had decided to come back home to farm, we considered it to be a bonus. We agreed to invest in him and introduce a development twice the size we had scheduled and with the payback extended over a longer period. It also made financial sense to introduce more cows to spread the costs."

Buying those cows is on their list of jobs to do along with completion of the four new barns, three of which will each house a robotic milking system allowing the herd to be split and managed independently. Following on, the partners next focus will be for the systems to efficiently manage those cows milking three times a day to realise an average of 12,000 litres.

"We may make less money; however, I am prepared to substitute some of the financial gains for quality of life, including more time to spend with my family whilst managing an efficient dairy farming business," George concludes. ■

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Modern state-of-the-art heavy duty herringbone parlour

DeLaval, Sweden

The Sedlmair family in Puchschlagen, near Munich, Germany has modernised their farm and chosen a Herringbone parlour system for their needs. “It’s exceeded our expectations,” says Simon Sedlmair, herd manager of the family farm and a highly respected Simmental breeder. Professional, modern and innovative are three characteristics which distinguish Sedlmair. Simon (Senior), Anni and the two siblings Simon (Junior) and Matthias constantly implement new ideas and drive successful and exciting ways of developing their farm. The original operation is like many Bavarian farms located in a village. By 1978, the grandfather had already built a silo outside the village. At this location, in 2013, the new cubicle stall and the milking parlour, a DeLaval Herringbone HDHB milking parlour, was built as well.

When the Sedlmair brothers, Matthias and Simon, took over the family farm, they wanted to modernise the farm based on experiences they had abroad. They may be living in a part of Germany that thrives on tradition, but they were keen on innovating and finding the most modern and advanced solutions for their specific needs.

The Sedlmair brothers covered almost 5,000km to find the right milking system for themselves. They milked cows in milking parlours in New Zealand, South Africa, USA and the Netherlands. It quickly became clear that a conventional milking system was best for their growing farm. Their decision was a heavy-duty 2x18 DeLaval Herringbone HDHB parlour. “We chose DeLaval because of the stability of the milking parlour, the solid processing and above all the attachment- and take-off-arm that makes day-to-day milking very easy. It doesn’t just carry the load of the cluster but also insures reliable take-off in combination with the removal chain after milking,” explains Simon. “It’s really a high-end parlour. When we design everything it’s always with a ‘no-compromise’ philosophy and that’s what you see with this kind of parlour.”

The new DeLaval Herringbone HDHB parlour with its very good positioning, allows for great loading times. It provides a very comfortable way for the cows to exit. This complete system is an optimum solution for a professional and well-integrated milking environment. It is designed to give the best performance and improved comfort for animals and for the operators.

The goal is to milk more cows per milker

The Sedlmair farm is milking ~160-170 cows per hour on average; higher than the original goal they had set. “To milk 2,300kg of milk per hour with two milkers is only possible because we have the right equipment,“ says Simon. “Our waiting area is dimensioned correctly and equipped with a really good crowdgate. This, in combination with the well-designed entrance area of the HDHB, ensures fast loading of the parlour. During the milking process, the take-off arm is carrying the whole weight of the cluster and is aligning the tubes in the right direction. After automatic take-off the cows can leave the parlour through the up-swinging rapid exit.”

The young farmers are also working with DeLaval DelPro Farm Manager and they can monitor variations in milk quantity and spot potential udder diseases by using the latest DeLaval MM27BC milkmeter with blood detection and conductivity measurement. With the DeLaval activity system they can also detect heat early and use the information they receive to separate the animals immediately after milking using a three-way sort gate.

The brothers decided to build a milk tank outside. "Our father was sceptical at first when we told him that we wanted to move the milk tank outside, but when we reminded him, as it has happened a few times in the past decades, that the milk room was always too small, he agreed," smiles Matthias. It has a capacity of 25,000 litres.

The lighting system works automatically – switching on as soon as daylight goes below an adjusted level. This contributes to a further increase in the herd’s milk yield. The robot scraper moves smoothly through the dairy alleys keeping the treads dry and clean and helping hoof care.

The brothers concentrate feed stations that are supplied by the two outside silos allow each cow to be fed with several kinds of concentrate depending on their needs. The feed is automatically shuffled several times a day. The Sedlmairs also decided to use high-comfort rubber matting for high-bay boxes. These are sprinkled with 60kg of chopped, dusted straw, twice per day, by a small, battery-powered bedding machine.

The Sedlmair family is satisfied that they have now made the right investments to maintain a healthy business in the future and keep the family farm running into the next generation. ■

delaval.com

Brazilian farmer revolutionises automated milking

GEA, Germany

Up until August 2017, the Godallatte farm, located in the city of Paraí (State of Rio Grande do Sul, Brazil), had a routine that is typical in Brazilian farms. There used to be two milkings a day, the first one in the early hours of the morning, which required an intense gathering of the herd, now comprised of 110 lactating Holstein cows, reared in compost barns.

However, from that moment on the traditional process of milk harvesting, which had always been the work of the Goin family, owner of the farm, has been replaced by a much more modern and simple operation based on the use of an automated milking system. The solution of choice was the Monobox from GEA, a German engineering multinational company, which is a global reference in providing innovative solutions for farms around the globe.

Godallatte's new era was created by a change of command. The farmer, Sérgio Goin, passed the mission to manage the farm into the hands of his 27-year-old son, Douglas. The successor, however, accepted this challenge with the commitment to modernise the farm's milk production system. "The automation was decisive for this new phase of the business," said Douglas.

Thanks to the adoption of the robot and to the employees' attention focus change, Douglas' routine has been very different from the one his father had for decades. In short, much of the farm's management work is now done online, from his home, located eight miles away from the farm. "With Monobox, my daily routine has improved a lot because I can manage the milking sessions from any location. All I need is an internet connection to access the farm computer. With this change, much of the complex manual labour has been replaced by more strategic tasks," explains Douglas. In addition to a more relaxed routine, the automated milking has also enabled him to reconcile the farm management with other professional activities, which would be impossible with the old production system. Douglas, who holds a degree in veterinary medicine, also doubles as a nutritionist at an animal food company, an occupation he has no intention of giving up.

In six months of operation, Monobox has already helped Godallatte to increase its productivity and, consequently, its income. Currently, the herd is providing an average of 2.7 milking sessions a day. The daily production per cow also increased: before automation, they collected about 29 litres per cow. Now the average is 32 litres, with a projection of 45 litres per cow in the next five months. "The improvement in production and quality provided by automated milking has been a great motivation for us to invest in this system.

My goal, within three or four years from now, is to set up a milk processing plant," says Douglas.

Another breakthrough achieved by the farm was the optimisation of the workforce, since the two employees who worked exclusively in the milking process were reassigned to other tasks. "The conventional milking system requires a repetitive process of cow management, often outside conventional hours, with many challenges and risks," says GEA Product Manager Evandro Schilling. "With automation, it does not happen anymore."

The provision of various types of data that generate knowledge for the farmer is another great benefit provided by Monobox. "With more data in hand, it is easier to manage the farm and make decisions," adds Douglas. "Previously, for example, milk measurement was manual and done once a month. Now we have this information daily. It has also improved heat detection with the introduction of GEA's CowScout electronic system, which is helping us to inseminate more cows and select the best animals to be kept in the herd."

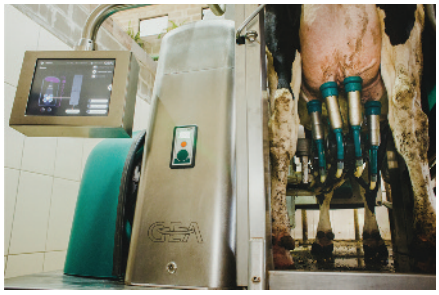
According to the young farmer, the learning process to operate GEA's automated milking was very easy, thanks to the support provided by the company; and the adaptation of the animals occurred in a very smooth way. "In three weeks, the cows were already familiar with the new system," says Douglas. "The assistance provided by GEA throughout the development of this project was very consistent and fundamental to make this recent progress possible. In addition to that, the company, through its authorised dealer, always responds very quickly whenever we have any questions or needs. Such quality in service provision nicely complements all the benefits offered by Monobox."

Smart and complete solution

With Monobox, the farmer can rely on the most modern solution for the production of milk. The robot fully performs repetitive tasks that cannot be subject to failures, such as teat cup attachment, udder stimulation, cleaning and pre-dipping, drying, pre-milking, milking and post-dipping. Everything happens as part of a comfortable, fast and uniform process that takes place inside the teat cup.

"GEA performed a guided flow project for the Godallatte farm. As a result, when cows leave their resting area to search for food, they must go through smart gates that direct them to milking or feeding," explains Evandro. "The smart gate is programmed to identify the cows that are ready to be milked and all this activity can be monitored by the farmer remotely." ■

gea.com



Efficient milking with less labour required

Dairymaster

With the increasing size of herds, farmers are finding it more and more difficult to manage milking by themselves. With time and labour costs growing, farmers are now looking at ways to make milking more efficient and profitable.

Forest Farm, owned by the Curtis family, has a long history of dairy farming. In 1953 Thomas Curtis' grandfather established the farm and farmed the land for 30 years. In the 1980s Thomas' father took over the farm and grew the herd from 20 to 150 animals. Thomas now farms on a 300-acre plot with 393 Holstein Friesian cows and about 300 followers.

The biggest change in farming during that time was to switch from a traditional farming style with all year-round grazing to a full Total Mixed Ration diet. When the switch was made in 2013 production levels rose quickly. Within 18 months there was an increase of over 3,000 litres (from 8,000 litres to over 11,000 litres) and production levels have been steady ever since.

Due to the increase in cow numbers Thomas had to look at a new parlour. Before he made a decision he needed to get answers to – "which milking parlour do I invest in for the next 20 plus years? Which parlour will make the most financial sense by reducing labour, increasing efficiency through automation and provide the necessary backup and support needed?" After much research Thomas installed a 30 unit Dairymaster Swiftflo Fast Exit milking parlour in 2015 and is delighted with his decision.

The Swiftflo Fast Exit has a number of unique features that are a tremendous aid to the farmer. With Swiftflo Plus Bailing each cow has her own clearly defined space, this results in much quicker and easier loading and all spaces are allocated in sequence as the cows enter the parlour.

During milking the cow is positioned for optimum cluster attachment and alignment. The design of the Swiftflo Plus Bailing allows for cows to be more relaxed and content during milking. Because of the angle of the cow standing it is much safer for the operator during cluster attachment and there is also less walking for the operator during the milking process. When each row of cows are milked the Swiftflo Plus Bailing is raised above the cows, which creates a clearway for exiting.

Cows are being milked three times a day and are indoors at all times. This requires a different management approach with strategic planning. After installing the Dairymaster milking system, Thomas immediately noticed cows were a lot calmer and happier during milking as a result of Dairymaster's unique milking characteristics. Because of this he was getting more milk from the same number of cows.

He installed the Dairymaster ClusterCleanse which he says "is an immense aid for improving milking hygiene". By introducing Automated Cluster Removers and ClusterCleanse, clinical mastitis cases decreased to 10% per year and herd SCC significantly lowered to an average of 145,000. These improvements in milk quality and cow health have led to reduced antibiotic intake and lower veterinary bills.

Being a certified member of the Red Tractor Scheme, quality and efficiency are top priority on Forest Farm. Using Dairymaster's SwiftCool technology he is always certain milk is cooled efficiently. "The CoolControl tank is definitely energy efficient, I also have the text function, if anything goes wrong the tank will send me a text and this gives me great peace of mind."

Delivering milk to Glanbia for cheese production requires milk of the highest quality. Being an efficient producer, he is able to not only deliver a supreme product but also deliver lots of it.

The Swiftflo Fast Exit can be designed in a range of sizes to meet the needs of each customer. The Dairymaster design team are on hand to assist with all aspects of parlour design and the highly experienced technical staff can provide comprehensive advice and assistance. ■

dairymaster.com

Unique performance in sheep and goat milking

Milkplan SA, Greece

Milkplan SA is a leading company in milking systems and livestock equipment manufacturing but is mostly well-known for its world famous cooling tanks and its sheep and goat milking systems. It is a company that has installed over 2,000 sheep and goat milking systems worldwide. Its last mega project in this field is the Miliora farm in Kagadi of Achaia, one of Europe's most modern livestock units (www.miliorafarm.gr). In this farm with 2,500 milking sheep, Milkplan installed an MP Armektron Fast-4-All 2 X 36 / 72 – an advanced automatic sheep-milking system, fully-equipped with a state-of-the-art electronic management system.

It is proven that with the MP Armektron F4A the highest percentage of productivity is reached in less time. Following animal well-being recommendations and the company's experience in the field, Milkplan's R&D team has designed the milking parlour paying special attention to detail, such as ensuring the animals' smooth movement, comfort and welfare as well as effortlessly maximising productivity. MP Armektron F4A is designed for 24/7 operation while assuring the milk's quality from teat to tanker. Adaptable to any space requirement thanks to its flexible and ergonomic design, it offers comfortable movement for the animals as well as minimum human effort. The equipment guarantees maximum flow and less stress to the animal, facilitating quick and smooth milking.

To increase herd productivity, enable breed specialisation and improve individual animal production, in the Miliora farm, the MP Armektron F4A was installed with an electronic herd management system so that automatic data collection is possible. The accurate and reliable database provides analytic reports needed for decision making and efficient herd management, as well as genetic improvement.

Regarding the 'after-milking' needs of the Miliora farm, Milkplan's team installed the automatic washing system MP Armektron Pulse & Wash 2to1. This meets all CIP requirements and features applications for automatic hot and cold water supply, time/quality/temperature setting and control, washing cycles and drainage control as well as unlimited program options for any farm. Programmed through a user-friendly digital screen, it offers effective and optimal cost effective washing combined with minimum water and detergent consumption. Besides, it provides full electronic pulsation control ensuring pulse signal precision, udder health maintenance and excellent system stability, while at the same time guaranteeing minimum vacuum consumption. Overall, the whole project was designed under the specifications of modern farm management aiming to ensure maximum performance and energy saving, favouring the farm's high profit-making potential as well as its future sustainability.

Having in its portfolio the most advanced sheep and goat farms worldwide, the industry's preference for Milkplan is inextricably linked to the quality of the products, the company's reliability, the customer-driven approach, as well as the importance it attaches to development. With continued investment in infrastructure and human capital, Milkplan develops new technologically advanced products and carries out specific projects to suit the requirements of each project that calls for personalisation and customisation. With advanced industrial know-how and a fully certified production process, Milkplan offers integrated solutions for the construction and smooth operation of a modern livestock unit, supporting the livestock farmer/dairy farmer/cheese-maker in every effort, from facilitating daily work to enhancing the unit's growth rate.

Boilerplate

Milkplan operates in the field of farming technologies and equipment designing, manufacturing and selling. The company holds a leading position in the Greek market and it ranks among the biggest companies in the livestock field at an international level. Guided by quality, innovation and consistency, Milkplan exports to more than 85 countries worldwide having over 85% international sales. With continuing investments, for 30 years Milkplan has been following the most appropriate way of developing new products. With 30,000m^2 company-owned manufacturing facilities, state-of-the-art equipment and technology, advanced industrial know-how and fully certified manufacturing, Milkplan offers flexible and functional turnkey solutions for the construction and effective operation of modern livestock units ensuring high end-user efficiency. ■

milkplan.com

Rotary system provides ultimate udder access

BouMatic, USA

Marielle Lenferink is the eldest Lenferink daughter on a farm in Almelo, Netherlands. She took over the lead role in the family business from her father. Marielle got acquainted with the BouMatic milking philosophy and quality during her internship in a BouMatic parlour where she milked with the BouMatic milking unit.

"The experience I had with BouMatic during my internship settled the matter for me when we had to invest in a new parlour system in our own company. We also chose BouMatic because of its toughness, reliability and the stainless steel. I feel fortunate every day that we chose BouMatic."

Installed on the Lenferink farm is a Xpedia 360IX 24+4 rotary with SmartDairy automation and equipped with in-parlour feeding system, SmartControl Meters with TouchPoint, SmartEIDidentification system, Flo-Star MAX claws, AirStar DSL vacuum pump with variable speed drive, BouMatic Plate Cooler, Guardian Supreme washer, stainless steel jetters, and stainless-steel air cylinder detachers.

Maximising parlour performance

Combining the best of parallel, herringbone and tandem designs, the BouMatic Xpedia 360IX platform provides the most relaxed milking environment and quickest entrance and exit traffic. Premium comfort and safety is combined with system efficiency to ensure the highest quality for the milk harvest.

The system can milk up to 800 cows per hour reducing milking time and operator labour costs. Simply put, the BouMatic Xpedia 360IX maximises parlour performance.

Special attention has been given to the entrance and exit design, creating a calm atmosphere in the milking parlour. The cow's entry onto the platform is easy and safe. The door's adjustable curved shape and overall design prevents injury or discomfort. Exiting is equally stress-free and safe. Since the animals are positioned in a 60° position, facing the exit, they leave the platform in a smooth, natural movement, allowing the work flow to continue without interruptions.

The BouMatic platform also offers the ability to grow. To expand production, all it takes is one more turn and 10-15 minutes of extra work. No additional investments are necessary. Four human access points provide an exclusive secure passage outside the platform avoiding expensive investments in a tunnel construction. Capacity can be further increased by converting the patented access points into extra milking stalls.

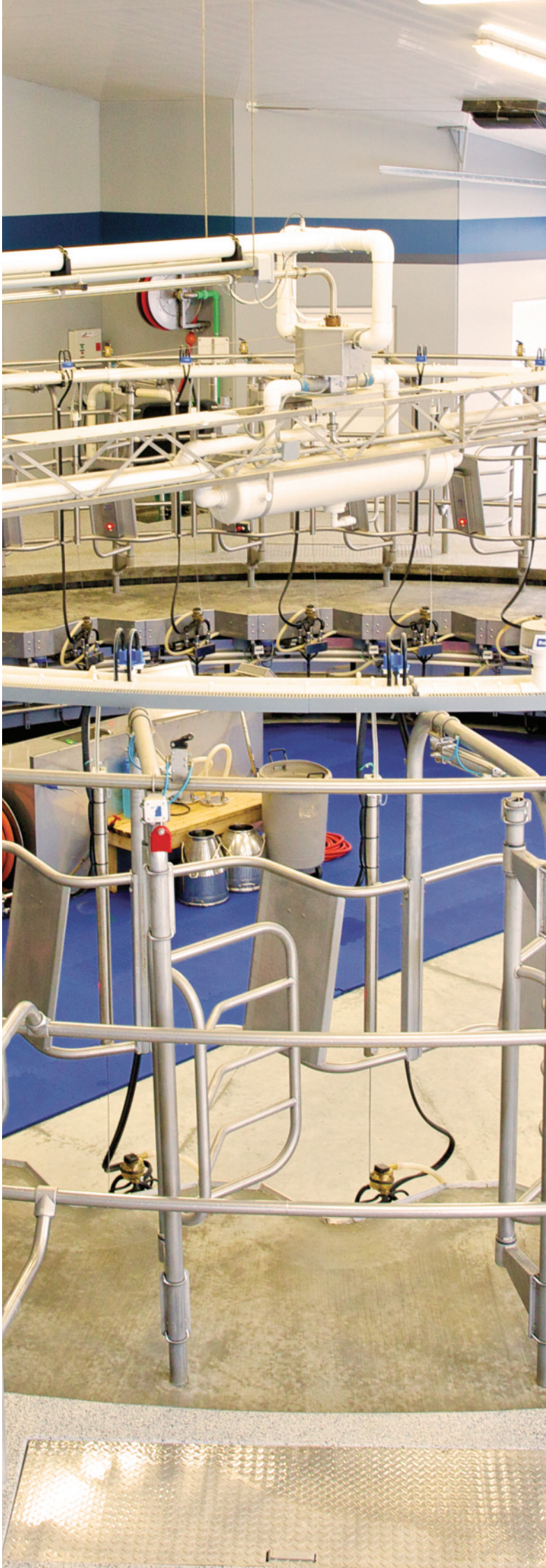
The Xpedia 360IX is a reliable, maintenance-free milking system designed to last. A large steel I-beam girder supports a steel substructure that carries a reinforced concrete deck approximately 13cm thick. The platform rides on precision nylon rollers, each of which is designed to support over 11 tons. BouMatic has installed over 400 rotary systems worldwide in nearly 20 years.

Safety is also a key concern to be addressed. The Xpedia 360IX has an automatic stop and reverse device. When a cow delays entering, the system stops, reverses and starts again automatically. The cows always enter without intervention of the milker.

The design also offers the ultimate in udder access. Through the zigzag curbing design, operators have the best access to the udder for rear or side milking. The slight inclination of the concrete floor encourages the cow to stand close to the milker in an open stance, offering the ultimate udder access. A good overall view of all the cows allows for fertility and health controls during milking if required.

BouMatic is dedicated to ensuring that dairy farm producers throughout the world can produce the highest quality milk most efficiently, profitably and responsibly. ■

boumatic.com



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info@positiveaction.co.uk

www.positiveaction.co.uk