

DeLaval AMR™

A System Approach



**IT ALL REVOLVES
AROUND YOU**



TAKE CONTROL AMR™

A DeLaval AMR™ system is all about you, it is all about giving you the maximum control of your dairy farm. That means delivering you a system that lets you:

- 🔌 Control when and how you work**
- 🔌 Control when and how your staff work**
- 🔌 Control what and how you feed**
- 🔌 Control how, and how often you milk**

With an AMR™ working for you – it is you, not your cows or workers that determine your productivity. It is you that determines what time work starts and finishes for the day. It is you that determines how often your cows are milked or what they are fed.

There is no one point in the process that makes this unprecedented level of control possible, it is the whole process. It is how your AMR™ will work with you, your staff and your cows that set it apart.

And it all starts with Pre Entry.



1. Pre Entry

Time spent fetching and sorting cows is time that could be spent on more productive tasks. That's why cow-traffic is at the heart of the AMR™ design. You collect them once and move them to the waiting area, from there the crowd gate ensures they are slowly and calmly moved to the AMR™ platform.

And because AMR™ works for you, it doesn't matter what type of feed system you are using, pasture, TMR or PMR, you don't need to use concentrate to entice the cows, so you can stay with the feed option that delivers for you.

The same flexibility exists for how you organise your groups for milking – scheduled batches or voluntary, once, twice or three times a day, no staff, one shift, two shifts or 24 hours – you are in control.

Through DelPro™ and DelPro InControl™, you reap the full benefit of all the work you do before the cows present themselves for milking. Setting parameters, analysing performance, operating procedures and routines are all set. It makes your farm a better, more consistent and ultimately an easier to understand place for your people and for the cows themselves.

All this adds up to a calmer, more productive and safer environment.

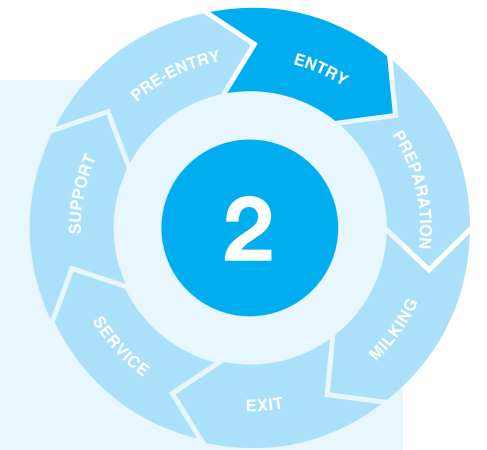
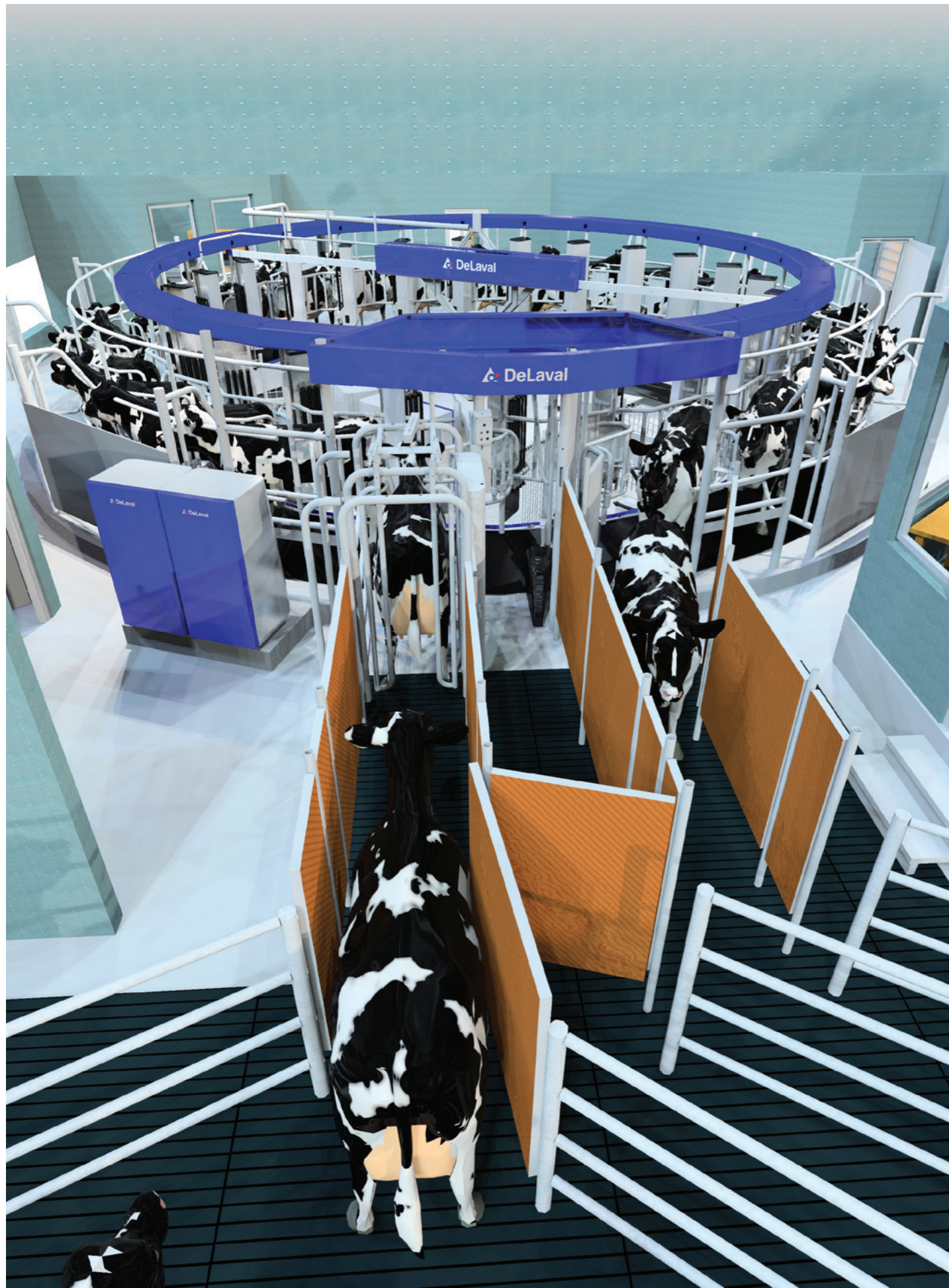
DeLaval DelPro InControl™

DelPro InControl™ is your interface with your AMR™ system, and the doorway to the most sophisticated farm and herd management software tools available today.

DelPro InControl™ doesn't just make it easier to tell your AMR™ what to do, it is easier to monitor its performance, and easier to understand the data it has generated. It will provide you with the reports, analysis and information you need to make better decisions, and to give you the power to control things regardless of where you happen to be.

Using either the touchscreen or with DeLaval Apps, you are always able to view your AMR™, to control its operation, track daily routines or share information with staff. Which means with AMR™ and DelPro InControl™ you are in the best position to make the right decision at the right time, even if you are miles away.





2. Entry

It is well known that everything that happens before the first cup is attached is a key factor in the productivity and health of each cow.

Analysis of cow behaviour and performance shows that a key point where significant productivity gains can be made is in the management of stress levels at entry.

That is why AMR™ was designed to provide the smoothest, most relaxing entry for the cow. Everything from the entry lane design, flooring choices and bail alignment to the saloon style gates that ensure only one cow enters the platform at a time; was created to move your cows quickly, calmly and efficiently through the milking process.

DeLaval InSight™

At the preparation, milking and exit stages of the milking process the repetitive tasks of identification, attachment and spraying are all carried out by the robotic arms assigned to those tasks. Two arms manage preparation, two milking and one more manages the teat spraying at exit.

These five robotic arms all have at their heart the unique combination of the most advanced camera, hardware and software combination ever seen in a milking environment. DeLaval InSight™.

It doesn't just react to the udder. It learns.

At each and every milking DeLaval InSight™ maps and learns each cow's udder and teat placement. This means that even a cow that has never presented before will be milked efficiently, but it also means that each time a cow presents, her unique udder configuration is anticipated, accounted for, and adjusted to; making it possible for each task to be carried out more efficiently.

It all adds up to a better process for you and your cows.

- Faster attachment means greater capacity
- No teaching required
- More accurate attachment means lower Mastitis
- More accurate spraying means better udder health
- Automatic camera cleaning means less downtime
- The ability to learn means smoother, faster milking
- Fewer kick-offs means calmer cows





Preparation is so important it demands a separate cup:

1. We use a separate preparation cup for cleaning, stimulation and pre-milking
2. We never use the same cup for good and bad milk
3. We never waste good milk for 'cleaning' purposes



3. Preparation

Correct, consistent preparation routines result in better outcomes in terms of both udder health and productivity. And you simply cannot create a more consistent preparation routine that one managed with robotic technology.

Rather than rushing to get the milking cups on as quickly as possible, AMR™ encourages better milk flow through the milking process by taking the time to adequately stimulate the teat – ensuring Oxytocin release and a steady flow of better quality milk without issues like hyperkeratosis, poor teat end health, cow discomfort, increased chance for kick offs, liner slips and Mastitis.

To achieve this AMR™ uses a separate, dedicated cup to eliminate any chance of cross-contamination or residue during the preparation stage. Once attached, the preparation cup uses a unique combination of air, water and optional cup cleaning additive to clean, stimulate and strip the teat ready for milking.

During this process pre-milk is collected, transported and dumped for each cow, again using separate lines and containers to ensure there is no risk of cross contamination.

Now the teat is dried and is ready for milking to commence.



4. Milking

A DeLaval AMR™ doesn't just milk each cow as an individual – it milks each teat according to its own capacity.

Having replaced the teat preparation cup for automatic cleaning, the next two arms attach the separate milking cups. These are collected two at a time and attached firstly on the rear teats, then the front to avoid any risk of cross contamination.

As with the preparation robots, each milking arm is capable of attaching all cups to provide additional redundancy.

Once the cups are attached, the AMR™ really shines. After all, this is what everything else is for – milking.

With each cup linked to an individual ICAR certified milk meter, each teat is individually monitored throughout the milking process delivering all the data that is needed for your AMR™ to deliver real health, productivity and milk quality improvements that only REAL Quarter Milking can deliver.



It all adds up to the best milking process available, and because sometimes that might mean having to give personal attention to an individual cow, or to assist in fresh cow management; there is always the ability for manual milking without the AMR™ missing a teat. After all, we are here to give you more control, not to take it away from you.



REAL Quarter Milking

With REAL Quarter Milking each teat is monitored for performance and quality using a dedicated ICAR milk meter for each teat, this data is then used to maximise flow, minimise free fat acids, hyperkeratosis, and milk residue.

It all means a gentler milking process, better flow, better take-off, healthier, more comfortable and productive cows, and ultimately – better, higher quality milk.

And with the DelPro InControl™ system you are able to observe the milk flow, yield, blood and conductivity all in real-time, per quarter and all compared to last milking, knowing that the system is transporting the milk according to the parameters you have set so that you can be certain of your milk quality.



5. Exit

Once milking is complete we begin the process of preparing for her next visit. This means cleaning and disinfecting not only each teat, but also each cup and even cleaning the deck automatically.

Using the separation philosophy that is central to ensuring milk quality and hygiene throughout the AMR™, the first step in the exit process is delivered by the last of our five robotic arms.

Each teat is identified and sprayed individually using a separate line and nozzle to eliminate any risk of milk contamination. Because each teat is targeted separately not only is the coverage superior, but it is delivered more efficiently meaning you use less teat spray but receive better udder health.

Now she is granted access to the exit lane where she is drafted based on the data recorded during the previous milking or any activities you have logged in DelPro™. This means she can be sorted back to her original pen, drafted based on MDi, colour or conductivity, drafted for treatment or AI, or returned via the VIP lane if the system has logged her milking as incomplete, or if you would like her to change group.



AMR™ – Total Udder Health Control

Recorded and calculated at every milking, for every cow, DeLaval Mastitis Detection Index (MDi) is a powerful tool which provides warnings long before any visible signs to help you control Mastitis. AMR™ will automatically draft on exit and alert you to any cows.



Transfer, cooling and storage

As she exits so does your milk. The cooling, transfer and storage of your milk is critical. With a range of cooling options, your AMR™ can be configured to deliver a solution perfect for your environmental, regulatory and economic situation. Whichever solution you choose to integrate with your AMR™ you can be sure it will reduce bacteria growth in transport lines and buffers, optimise your energy consumption, and deliver the highest quality milk. All without the need for costly 3rd party system integration – you just plug it in, and know it will work.



6. Service

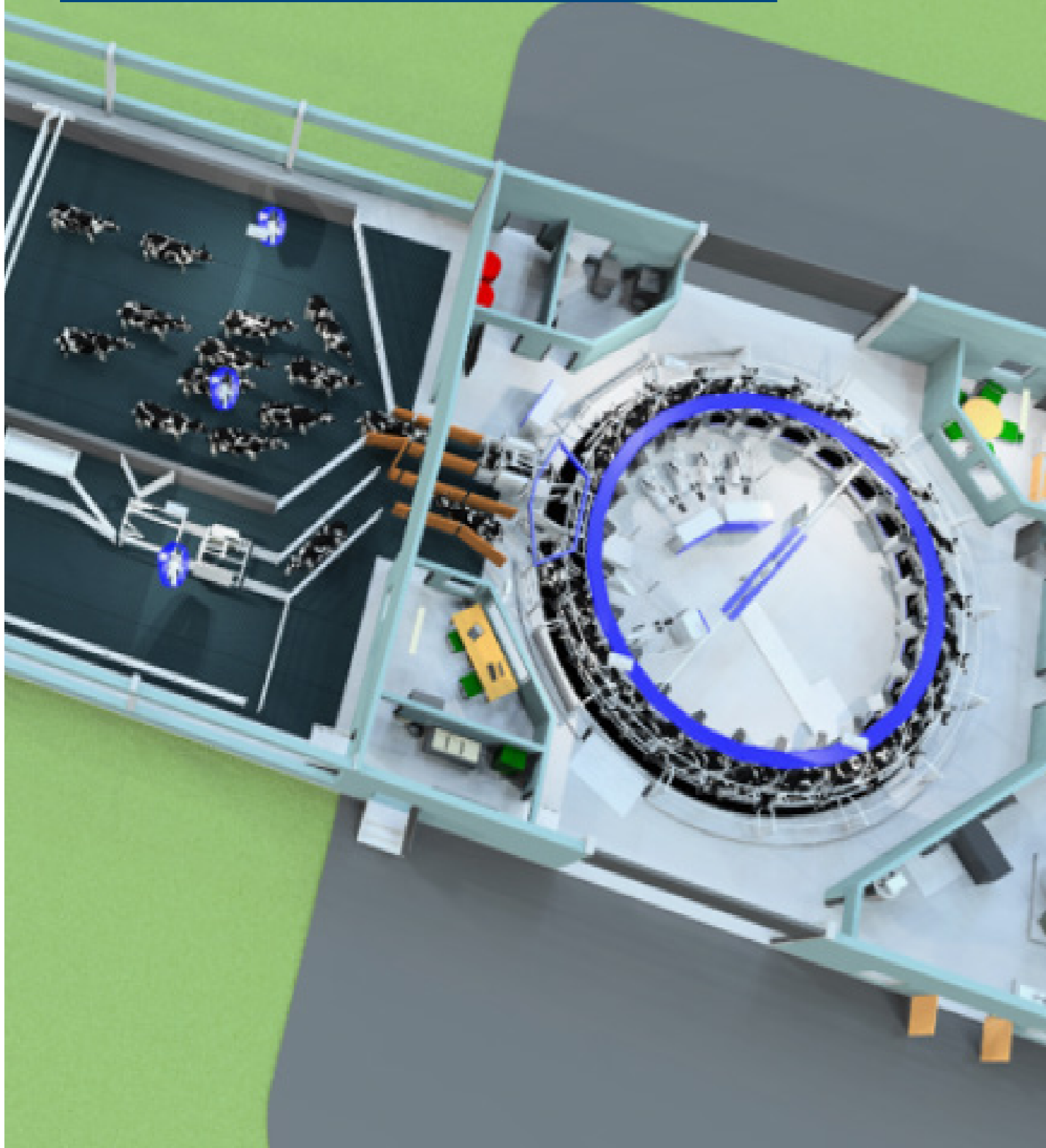
DeLaval AMR™ does not stand alone – and neither will you. We are totally committed to the support of all of our AMR™ farms. With specialised consumables and detergents specifically designed and formulated to work with AMR™, to a technician training programme that ensures your service team are always up-to-date with the latest developments.

And with InService™ All-Inclusive we can even deliver you total control over your service costs.

An InService™ All-Inclusive contract will deliver everything needed to keep your AMR™ in perfect working order – from liners, filters and tubes, detergents and sprays, to scheduled service and maintenance - everything can be delivered automatically for one agreed monthly price so you have total peace of mind.

Barn planning

Whether you are converting an existing barn or planning a new one. Whether you farm a pasture system, a barn or anything in between, the DeLaval AMR™ specialist team are here to help you create the system that is right for you.



7. Support

Proper planning is an essential part of any farm investment. If you are planning on investing in DeLaval AMR™ you can call on the expertise of the DeLaval Global Planning Team.

With wide-ranging experience, they can help you with anything from the optimal barn design to calculating long-term operating costs and revenues.

Capacity planning

AMR™ works for smaller farms all the way up to huge corporate operations. And because our system approach is designed to make it possible to grow, it will even work with you through the growth if that is your wish.

Whatever size of farm, whatever your growth aspirations, we can work with you to implement a dairy system that will deliver the results you need, and with more than 20,000,000 milkings, the AMR™ is a proven and reliable system that can form the backbone of your farm for decades to come.

It is all about using automation to make you less reliant on an uncertain future labour market, to keep you at the forefront of animal welfare and food safety issues, and to help ensure that dairy farming is a profitable option now, and an appealing lifestyle and career choice for the next generation.

Financial planning

Dairy farming is all about producing more with less. And DeLaval AMR™ is designed to give you more control of the key variables on both sides of the cost/revenue equation:

- More, better quality milk
- Less mastitis
- No good milk wasted
- Healthier cows
- No cross-contamination of cows
- Yield maximised from each cow, even each teat
- Fewer man hours per milking
- Pre-defined service costs
- Less power, detergents and teat sprays
- Reduced staff turn-over

It all adds up to a better, more profitable experience for you, and a better way to milk for your people and your cows.

Turning data into information

At the heart of your AMR™ is DelPro InControl™. It is how you operate it, but is also the gateway to our farm management system – DelPro™.

DelPro™ is what takes all the data collected by your AMR™ and any other systems you may be using, and turns it into useful, easily understood information to let you make better, faster, more accurate decisions. You set your management objectives, implement a plan and DelPro™ will make sure you have everything you need to put the plan into action.



Ongoing advice

To get the most out of your AMR™ it is essential that you configure and manage your system to suit your farm, your cows and your working style. That is where expert help can be beneficial.

Our trained Milking System Management Specialists are there to help you establish routines, settings and herd management processes to ensure your AMR™ is delivering the best results from day one.

They are available to deliver regular performance enhancement sessions covering every aspect of your voluntary milking system, from feed to reporting to help you plan, customise, implement, manage and optimise your AMR™ throughout its lifetime.

It All Revolves Around You

Every AMR™ comes with one last set of numbers, these numbers are yours to use whenever you need them and they give you 24/7 access to the AMR™ hotline. This is not a call centre or a voicemail message. It is a hotline staffed by someone from DeLaval with specific knowledge to solve any issues you may have with your AMR™, they have the ability to log-in remotely into your system to access the diagnostic systems and to help you get back up and running as fast as possible.

We live milk