

# GEA Automation Solutions

A full range of automation technologies to fit any management style — the choice is yours!



# GEA Automation Solutions

## The automation advantage

Dairies of all sizes can benefit from the labor reduction, consistency and constant monitoring available with GEA automation solutions.

At GEA, we know every dairy is unique and deserves automation solutions that work with your herd and management style. Whether you are looking to automate the entire milking process, your post-dipping routine or just your heat detection or calf feeding system, our customizable automation solutions can be tailored to fit your individual needs.

**Reduce labor** — automation can help solve labor issues you face on your dairy by replacing everyday tasks with robotic technology. Plus, our automated solutions allow you to take a step back from focusing on physically-intensive labor tasks and dedicate more time to cow and farm management.

**Increase consistency** — cows respond best to consistent routines, especially during the milking process. Automating the entire milking routine, or a portion of it, allows for the procedure to be completed the same way at every milking session, day or night.

**Constant monitoring** — automation success is driven by data. With automation technology, your cows are constantly monitored for variations in their normal behavior to signal when they are sick or ready to be bred, giving you improved accuracy and earlier detection than human monitoring can provide.

Whether you are ready to jump into full-scale automation on your dairy, or just looking to automate a single-step in the milking process, GEA has automation solutions to help your cows produce high quality milk and to help keep your operation running efficiently and profitably.



# When it comes to milking automation, only GEA offers a full-range of choices

Our team is here to help you find the milking solution that best fits how you want to manage your herd and employee base, while maximizing your quality of life.

For example, you may want to pursue complete milking automation to reduce labor, but desire to continue to manage your cows in a similar fashion as you do today. Then, the DairyProQ may be an option for your farm.

You may want more flexibility in your life with no scheduled milking times. Then, the DairyRobot R9500 system can be an option that fits your needs.

You may not be ready to jump into full-scale milking automation, but would still like to minimize labor and maximize throughput. Then, a conventional rotary with automated teat prep and an automated post-dipping system is an ideal fit for your herd.

Choosing the next milking system for your dairy is no small task. Factors that impact your lifestyle, your cow's health and welfare, and labor availability in your area are all considerations. Your current or future housing facility plans and desire to grow your herd size are also important factors. The management considerations listed here are only a start to help guide your decision-making process. The team at GEA, along with our dealer network are here to help you every step of the way.



Every dairy has individual requirements and goals for future success. GEA is here to help you every step of the way.

## Management considerations

	COMPLETE MILKING AUTOMATION		PARTIAL MILKING AUTOMATION
	DairyRobot R9500 Automated Milking Box	DairyProQ Automated Milking Rotary	Conventional Parlor with FutureCow Teat Prep and/or Apollo Post-Dipping
Herd size	Up to 65 cows/box	> 500 cows	No limitations
Milking schedule	Voluntary milking—unlimited and individual-cow based (usually 2–4 times per day)	Fixed milking times—limited to 2–3 times per day	Fixed milking times—limited to 2–3 times per day
Cow flow	Cows move on their own 24/7	Move as a group to milking	Move as a group to milking
Feed management	PMR with in-box pellet feeding (based on individual production)	TMR feeding (group-based)	TMR feeding (group-based)
Milking labor reduction	Fully automated milking process with no milking operators	Fully automated milking process with 1 operator/shift	Streamlined milking prep and automated post dipping with > 2–3 operators/shift typically
Cow fetching	Cow fetching labor required	No cow fetching; only group cow pushing labor required	No cow fetching; only group cow pushing labor required
Milking routine	All milking steps in one attachment—100% process control	All milking steps in one attachment—100% process control	Manual process with semi-automated options that can reduce labor and improve consistency
Milk quality and mastitis detection	SCC is monitored throughout the entire milking per quarter using patented EPT technology  Sensors analyze milk color, conductivity and temperature	SCC is monitored throughout the entire milking per quarter using patented EPT technology  Sensors analyze milk color, conductivity and temperature	Sensors analyze conductivity per total udder (cumulative)
Maintenance and service	Regularly scheduled maintenance and service are required for optimal performance	Regularly scheduled maintenance and service are required for optimal performance	Typically lower in cost than a complete AMS system, but will vary based on level of automation
Hygiene supplies	When using manufacturer's recommendations, amounts are similar to conventional milking	When using manufacturer's recommendations, amounts are similar to conventional milking	Can vary based on level of automation
Herd management	Shifts to more concentrated, individual cow management	Manage cows similar to a conventional barn	Current strategies stay the same
Lifestyle	No fixed milking times means more flexibility in your daily schedule and the physically-demanding milking process is no longer a task	Flexibility is limited with fixed milking times—the physical demands are removed as the operator “oversees” milking rather than performs tasks	Flexibility is limited with fixed milking times and physical tasks can be reduced with the addition of key automation technology
Return on investment	Potential labor savings and general benefits to cow health and management, ROI can be more advantageous than conventional milking	Labor savings can be significant with general benefits to cow health and management, ROI can be more advantageous than conventional milking	Varies based on level of automation implemented and labor savings

*These management considerations are general guidelines. Each farm's parameters and preferences may vary. Consult with your local GEA dealer for specific information about your operation.*



## DairyProQ

### Unmatched automated milking efficiency

Milk up to 600 cows per hour with only one operator overseeing the parlor.

With GEA's DairyProQ, each milking step is performed inside the teat cup for a fully automated milking process without any human intervention. This provides your operation with consistent, efficient, quality milk production with less labor.

- Fully automated rotary milking system with a robotic module on each stall, is turned with a revolutionary, heavy-duty roller system.
- Real-time SCC monitor continuously analyzes milk flow from each individual quarter through entire milking process.
- Advanced time-of-flight camera captures a fresh 3D image at every milking for precise teat detection and fast teat cup attachment.
- In-liner everything™ technology stimulates, cleans, strips, milks and post-dips inside the teat cup, all in one attachment.
- Automatic backflush reduces contamination between each cow.
- Cowside monitor provides one-touch access to cow and robot performance data, and LED stall signals show milking status and required attention.
- Customized with 28–80 milking stations; 120–600 cows are automatically milked per hour with one operator overseeing the parlor.





**Name:** Jon Qual and family

**Location:** Lisbon, North Dakota

**Farm/Herd size:** Qual Dairy, 1,400 cows

**Milking System:** 60-stall DairyProQ Automated Rotary

“The difference in milk quality and on-farm efficiency is evident after only a few months milking with DairyProQ. Plus, only seven out of 1,400 cows didn’t make the transition to robotic milking on this system.”

“The biggest things we were dealing with before was the stress of our labor issue and the consistency of udder prep and milking. Now, only one person monitors the parlor and we’re milking more cows more consistently with less labor.

Our somatic cell count was low before, but the quality overall has improved. Each prep is consistent and we don’t have clinical mastitis flair ups to treat like we used to.”



**Name:** John Kampman

**Location:** Chilliwack, British Columbia

**Farm/Herd size:** Gracemar Farms, 1,000 cows

**Milking System:** 60-stall DairyProQ Automated Rotary

“With the consistency of the robots and the speed of milking, DairyProQ gets more cows in and out of the parlor to help us remain profitable.”

“Our milking time used to be five to six hours. With DairyProQ, we have cut that time in half. Now, we can milk about 300 cows an hour. The speed of attachment is faster than most robots, and the in-liner everything™ technology is a great feature that does all of the work to get the cow milking.”



**Name:** Kent Hoffman and family

**Location:** Peshtigo, Wisconsin

**Farm/Herd size:** Hoffman Happy Holsteins, 600 cows

**Milking System:** 40-stall DairyProQ Automated Rotary

“Only two people are needed for milking now — one to monitor the parlor and one to fetch cows. If the rotary wasn’t fully automated, we’d need at least five employees for milking.”

“Having instantaneous data at our fingertips has opened a world of timely information to make management decisions. We have info on milk production, eating time, heat detection, conductivity and real-time milk weights.

Milking shift time is down to three and a half hours — half that of our former step-up parlor. Milking times per cow are averaging 5½ minutes with 8–9 minute riding times, which is about five turns per hour.”

From stimulation to post-dipping, GEA’s DairyProQ completes each milking step in one easy attachment.



NEW



## DairyRobot R9500

### Automated milking any time

This all-in-one automated milking system offers herds of any size an optimal milk harvest that is not only efficient but focused on milk quality.

Utilizing the same robotic module as the DairyProQ in a box-style configuration, the DairyRobot R9500 can be seamlessly integrated into your preferred housing design. Cows can quickly grow accustomed to a relaxed, rhythmic cycle of feeding, resting and milking. With no rigid milking schedules, your time is more flexible and you can focus on other herd management tasks.

- Real-time SCC monitor continuously analyzes milk flow from each individual quarter through entire milking process.
- Open-frame design welcomes cows of all sizes with ideal positioning to optimize attachments.
- Advanced time-of-flight camera captures a fresh 3D image at every milking for precise teat detection and fast attachment.
- In-liner everything™ technology stimulates, cleans, strips, milks and post-dips inside the teat cup, all in one attachment.
- Automatic backflush reduces contamination between each cow.
- Convenient operator access and manual attach feature for special needs cows.







“We really like the camera feature that allows for efficient attachment. Plus, with the all-in-one liner, it cleans, milks and dips in one smooth motion.”

“We decided to install a GEA robot on our farm because it allows our cows to choose when and how many times a day they want to be milked. We really like the camera feature that allows for efficient attachment. Plus, with the all-in-one liner, it cleans, milks and dips in one smooth motion. The manual attachment feature is very easy to operate and we have the option to divert one quarter from a cow if needed. Since switching to the GEA robot, our cows are calmer and happier. Our milk quality has improved and our somatic cell count was reduced. With a great support staff from GEA, we were able to overcome any obstacles and easily adapt to the robot. I would rate that a 10 out of 10.”



**Name/Farm:** Adam Garfat

**Farm/Herd size:** R&D Garfat Farms, 50 cows

**Location:** Mapleburg Holsteins, Woodstock

**Milking System:** 1-Box system



# FutureCow<sup>®</sup> Prep System

Consistent cow prep for any herd size

Reduce cow prep labor and streamline pre-milking procedures by washing, disinfecting, stimulating and drying teats in one visit per cow with a mechanical brush unit.

- Every cow is prepped the same way no matter who is milking to ensure consistency during cow prep.
- More efficient cow prep with better stimulation can improve milking times and throughput.
- Eliminate the cost of towels and labor for laundry.
- Teat-ends typically get cleaner with the brush unit compared to human hands, improving milk quality and often reducing somatic cell counts.





# Apollo™ MilkSystem

## Automated post-dipping inside the liner

Reduce labor and improve consistency with automated post-dipping inside the liner.

- Each teat is dipped the same way at every milking, helping to lower somatic cell counts and reduce mastitis.
- Automatic backflush system helps reduce contamination between each cow.
- On parallel and herringbone configurations, it allows operators to focus on important pre-milking prep procedures and not worry about post-dipping the side that has finishing milking.
- On rotaries, after the operator attaches the unit, cows can finish milking, be post-dipped, have the unit removed and exit the platform without further operator intervention.

“Automation truly helps us produce high-quality milk using the same amount of labor we had before expanding.”

“Before installing the FutureCow® system, we were manually dipping and wiping with towels. FutureCow simplifies the prep process and creates consistency for employees. No more towels mean no more laundry. We no longer worry if the towels are dry before the next milking shift or if the washer got started.

Since switching to Apollo, we use less labor and less dip while getting consistent dip coverage for every cow, every time. I really like the backflush feature that cleans the milking unit after each cow. It removes any milk residue left over so every cow gets a clean unit. Our somatic cell counts have gone down and I’m sure the Apollo system has contributed to that.”



**Name:** Ellis Kreider

**Location:** Quarryville, Pennsylvania

**Farm/Herd size:** Long Valley Farm, 1,500 cows

**Milking System:** Double 30 parallel parlor with FutureCow® and Apollo™ MilkSystem

Combine FutureCow® with Apollo™ in a conventional parlor system for partial milking automation to help reduce labor and improve consistency.



## CowScout™ Automated animal monitoring

Be everywhere and know everything. Improve herd management and gain control over cow health and reproduction with less labor.

- Continuous monitoring helps identify heats and cow health issues sooner than visual symptoms appear.
- Optimize fertility management with accurate heat detection 24/7.
- Rumination data, along with eating, standing, lying and walking times provide detailed, individual cow information. The system sends immediate alerts when deviations occur from normal behavior.
- Automated animal monitoring empowers dairy producers of any size to make the best decisions for their herd based on the best information.

## FRone Automated feed pusher

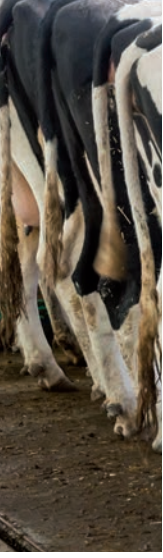
Minimize labor and maximize production. FRone pushes feed towards the feed line at the times you define and according to the routes you set.

- With consistent, high-quality feed available day and night, you can increase dry matter intake and boost production.
- Benefit from a quick return on your investment with payback typically in one to four years.
- Robust, reliable design ensures longevity and limited maintenance.
- Twin batteries charge quickly for maximum run time around the clock.

## Alley Scraper Systems Automated free stall cleaning

Incorporate an automated alley scraper for labor savings and cleaner barns.

- Schedule alley cleaning to occur automatically several times throughout the day based on your farm's specifications.
- Choose from a variety of alley scrapers engineered to handle every herd size, bedding type and barn layout.
- Industry leading drive units paired with heavy-duty corner wheels and scraper blades, for long-lasting chain, steel or rope cable system.



## Livestock Comfort System Automated environmental control

Automate your dairy barn ventilation for optimal cow comfort and energy savings.

- Customizable system goes beyond fans to automatically manage your sprinkler, curtain and lighting systems. With easy management, simply set it and forget it.
- From the heat of summer to the cold of winter, environmental conditions inside and outside of your barn are continuously monitored in real time.
- The system is easy to program and the interface is a user-friendly touchscreen monitor.
- With potential energy cost savings of up to 70%, the system can pay for itself, on average, in one to three years.

## DairyFeed Automated calf feeders

Customize your calf feeding with modern technology for less routine labor.

- Every calf can be recorded and monitored from the day it is born.
- GEA feeding systems record feeding and drinking habits, store the data and report deviations immediately.
- Milk is fed at the right temperature and mixed on demand, so each calf receives a ration specifically made for their individual needs.
- Based on the number of calves and size of your farm, GEA has an automated calf feeder system that fits your needs.

**NEW FEATURE!** Link your calf data to the CalfCloud and access it with the CalfApp anywhere and anytime.

GEA's full range of automation technologies can be customized to fit your operation and help you better manage your labor force, your time and your herd.



# GEA will be with you every step of the way

We understand automation is a serious step for your dairy, so we won't let you do it alone. Adding it to your operation is a decision that involves time, research, management considerations and future planning. We are here to help you implement the right automation so you can take your dairy to the next level.

## SEE GEA AUTOMATION IN ACTION

Contact your local GEA representative to schedule a visit or tour to a local dairy utilizing the GEA automation solutions that interest you.



## We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA is a global technology company with multi-billion euro sales operations in more than 50 countries.

Founded in 1881 the company is one of the largest providers of innovative equipment and process technology.

GEA is listed in the STOXX® Europe 600 Index. In addition, the company is included in selected MSCI Global Sustainability Indexes.

### GEA North America

GEA Farm Technologies, Inc.

1880 Country Farm Drive, Naperville, IL 60563

Toll Free: 1.877.WS.DAIRY or 1.877.973.2479

GEA Farm Technologies Canada Inc.

4591 boulevard St-Joseph, Drummondville, QC J2A 0C6

Toll Free: 1.877.WS.DAIRY or 1.877.973.2479

[gea.com](http://gea.com)