

THE ROBOTICS REVOLUTION AND YOUR BUSINESS

How grocery retailers can support key business goals by upgrading to robotic cleaning machines



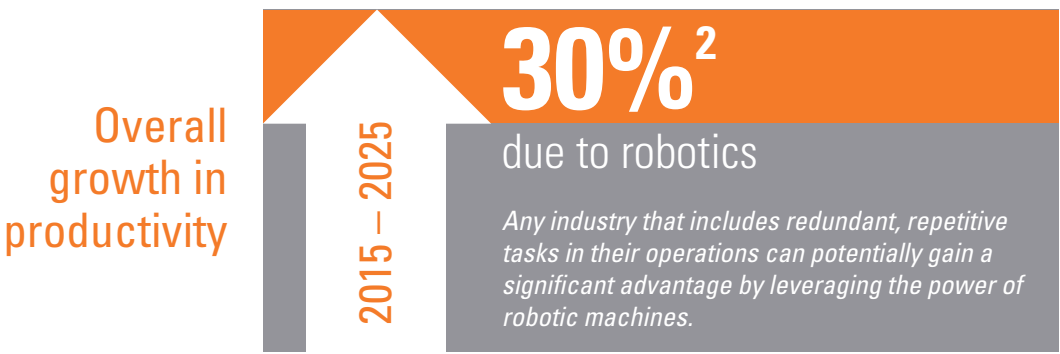
INTRODUCTION

THE GROWTH OF ROBOTICS IN RETAIL

We all know technology is growing faster than ever. Computers, the Internet of Things, robotics, and other types of automation are changing the way businesses operate—from the way goods are manufactured and distributed, to the way people work and the kinds of jobs they do. And as technologies evolve, they typically become more affordable, more advanced, and more universal. This is especially true of robots.

Today’s sophisticated robots are used in more ways than ever. And their growth is accelerating—particularly in the retail world. Increasingly, retailers of all kinds are recognizing the impact that robotics and innovation can have on making their businesses—and even their employees—more productive and efficient. Analysts expect utilization of autonomous robotics in retail will grow nearly 50% annually through 2030.¹ These deployments will leverage the power of robotic machines to address the redundant, repetitive tasks in their operations. In fact, in terms of productivity, the Boston Consulting Group predicts that robotics will account for a 30% increase between 2015 and 2025.²

With this boost in productivity and efficiency, robotics are helping retailers and grocers become more competitive—from addressing bottom-line concerns around rising labor costs, to ultimately focusing more resources on delivering exceptional customer experiences.



THE IMPACT OF ROBOTICS ON EMPLOYMENT

While robots are often portrayed as rendering humans obsolete, the reality is quite different. Humans will always be needed to do the kind of work that only humans can do—particularly in the retail world, where there is simply no replacing the human-to-human element in delivering an exceptional customer experience. In fact, a very small amount—less than 10 percent—of all jobs are fully automatable through 2030. (And about 60 percent of jobs contain at least some tasks that can be fully automated in the next decade.)³

In retail segments where labor and resources are particularly expensive—such as grocery—robots can enable stores to free up workers to put more of their effort and attention on tasks that only humans can do. In fact, when it comes to employment, the greatest threat is not automation (as sometimes thought), but an inability for companies to thrive and remain competitive.⁴ Instead of displacing workers, robotics and automation can help maximize human workers' potential by creating new opportunities to engage in tasks that have a larger impact on a company's bottom line.

Creating New Opportunities for Employees

Even though robotics may cause declines in certain occupations, automation will create many new occupations that don't exist today, much like technologies of the past have done—creating new and better opportunities for those who currently do repetitive work.

A 2017 analyst report found that many industries are experiencing, or are expected to experience, positive net job growth as a result of robotics.⁵ Of those, manual and service-related careers—including many in the retail segment—involving at least some redundant or repetitive tasks stand to benefit most. Rather than force out workers or make their jobs obsolete, automation allows workers to forgo some of their mundane responsibilities and focus instead on higher-skilled and higher-paid tasks—ones that are not only more interesting and engaging, but that also add more value to their company.

“Co-bots” supporting—not replacing—existing staff

Today's retail robots are more collaborative than ever, often complementing and assisting their human co-workers. According to research firm Loup Ventures, collaborative robots are one of the fastest growing markets in the robotic space—and are expected to account for 34% of all industrial robots sold by 2025.⁶ These collaborative robots, or co-bots, work side-by-side with humans, helping companies and workers become more productive than ever before. For example, in many retail stores, autonomous robotic floor cleaning machines handle the monotonous and repetitive floor cleaning tasks, giving staff more time to focus on complex and high-value tasks—whether that means focusing on cleaning high-touch surfaces and deep cleaning, or reallocating staff to focus on customer service.

CLEANING ROBOTS LEADING THE WAY IN GROCERY

Among the many use cases of robotics in retail, robotic cleaning machines are leading the way. Autonomous floor scrubbers and vacuums are expected to account for more than half of all retail robotics applications over the next five years.⁷ In fact, some of the biggest names in grocery retail are making cleaning robots a core element of their forward-thinking facility operations strategies, committing to deploying robotic floor scrubbers in their stores by the end of 2020.

Cleaning is more important than ever before

The increasing utilization of cleaning robots is directly aligned with the rising importance of facility cleaning in the grocery industry. Cleanliness is a top concern among customers. In fact, a Consumer Reports survey found that cleanliness was the common denominator of top-rated grocery stores.⁸ Rising public health concerns add further value to facility cleaning, helping to protect the health and safety of customers and staff.

Grocery retailers are placing a higher priority on facility cleaning. They're cleaning more frequently—often multiple times per day, including during daytime hours instead of only at night. They're adding targeted cleaning initiatives—such as frequent wipe-downs of high-touch surfaces and regular deep-cleans of high-traffic spaces. These efforts are only amplifying some familiar pain points for grocery retailers—things like managing the rising cost of labor, not overextending staff, and maintaining employee satisfaction.

Directly addressing grocery retailers' key cleaning challenges



FOCUSING STAFF ON HIGH-TOUCH CLEANING

Grocers are aiming to increase the frequency of facility cleaning and surface sanitization and disinfection to help protect staff and customers. Robotic floor cleaners allow retailers to trust frequent, methodical floor scrubbing to the robots—freeing up more time for staff to focus on wiping down and disinfecting high-touch surfaces, and other key infection-control measures in the facility.



CLEANING MORE FREQUENTLY—AND MORE CONSISTENTLY

Robotic cleaning machines allow grocery retailers to rapidly increase cleaning frequency without increasing labor costs. Moreover, their consistent performance helps give retailers confidence that facilities are being cleaned thoroughly and properly.

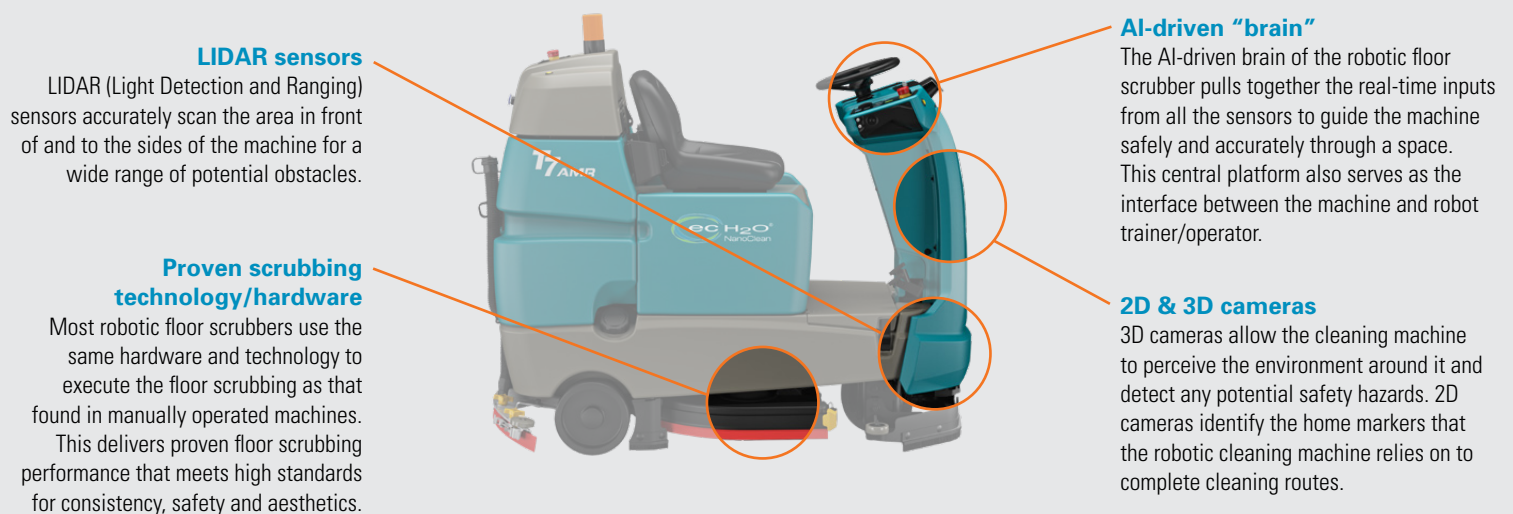


PROOF OF CLEAN

Real-time performance data from robotic cleaning machines validate cleaning, demonstrating that grocers are taking additional precautions to mitigate risks to staff and customers.

WHAT IS A ROBOTIC CLEANING MACHINE?

The biggest driver of increasing robotics adoption is the shift to autonomous mobile robots (AMRs). Compared to previous generation autonomous guided vehicles (AGVs)—widely used in industrial applications such as manufacturing lines—AMRs are not limited by physical tracks or magnetic beacons. This new breed of robots possess sophisticated on-board artificial intelligence (AI) engines which enable AMRs to not only follow complex processes and make intelligent decisions about how to proceed on a task—but also to safely navigate just about any space, including the grocery floor during business hours. In many cases, robotic floor scrubbers are the same core machines already used by many retailers—simply fitted with an array of sensors and the on-board AI “brain” interface. This significantly simplifies adoption, as users are typically already very familiar with the machines themselves.



WHAT CLEANING ROBOTS CAN DO FOR YOUR BUSINESS

PRACTICAL ADVANTAGES OF ROBOTIC CLEANING MACHINES

Cleaning efficiency & consistency

Having a robot cleaning in the background is like adding more consistent, reliable workers to your team. By taking on some of the repetitive, redundant tasks that machines can easily do (such as sweeping and mopping), robotic cleaning machines free up workers to put more of their effort and attention on tasks that can create a larger impact—tasks that only humans can do—and that have a more direct effect on a company's bottom line. This “co-boting” practice might include more specialized cleaning tasks, or other kinds of tasks entirely.

Employing robotic cleaning machines may also enable cleaning crews to work faster and more efficiently, allowing them to service more facilities faster, upgrade their level of service, and keep customers happier. And because workers have more time for tasks that can deliver a larger bottom-line impact, their time and labor ends up being more valuable to the company.

Employee safety

Robots can also play a role in making work environments safer by reducing accidents and mistakes due to human error. Overnight cleaning crews, for example, can get tired and make mistakes in judgment or lose focus. This can lead to accidents and damaged equipment, structures, or products. Some of these mistakes can be costly. Robotic cleaning machines, on the other hand, are programmed to be reliable and consistent. Many have built-in safety features that protect against accidents, whether they're used independently of, or collaboratively with, human workers. Through the use of sensors, lasers, and cameras, robots help limit exposure to damage.

Sustainability

Many of today's robotic cleaning machines offer the latest in sustainable cleaning solutions, technologies, and equipment—just like their non-robotic counterparts. And so, in addition to other advantages, they can help companies reduce their environmental impact and create a cleaner, healthier workplace. Tennant's machines, for example, minimize environmental impact in seven key categories including energy, CO2 emissions, ozone, smog, acid, eutrophication, and particulates.⁹ Not only is this great for the environment, but it's cost effective, too. Today's environmentally friendly machines require less water and fewer chemicals—saving money on supplies while reducing downtime, thereby making cleaning crews more productive. This can help grocery retailers protect their bottom line—a vital advantage in competitive markets.

HOW DATA AND PERFORMANCE TRACKING CAN IMPROVE OPERATIONS

Utilizing data is increasingly important and widespread across business, technology and life in general—from sales data, to financial data, to GPS data, to health data and much more. The way to optimize your process for best results is to know where you are, measure it against where you want to be, and then use the data to make adjustments.

Tracking & optimizing performance

For grocers looking to maximize their cleaning performance with minimal investment, data tracking is an excellent solution. Choosing robotic cleaning machines with data reporting technology gives managers greater insight into cleaning performance, enabling them to track key performance indicators. This can help companies increase operational efficiency, minimize labor costs and reduce expenses, ensure health and safety, make fewer errors and identify areas for improvement.

A survey by Cleaning Maintenance & Management of nearly 400 facilities around the U.S. compared cleaning performance between fleets using traditional, non-performance-based standards and those using data-driven standards. Not only did the data-driven fleets achieve nearly 23 percent greater daytime productivity, in terms of cleanliness and appearance, they scored more than 20 points higher on a 100-point scale. Not surprisingly, these data-driven operations also achieved consistently higher customer satisfaction thanks to their more efficient and effective cleaning performance.¹⁰

+23%
using data-driven
standards

Traditional
standards
of daytime
productivity
for cleanliness
and appearance

For grocery retailers, adopting a robotic cleaning program can go a long way toward enhancing a company's brand image by positioning it as a forward thinking, innovative leader.

ROBOTIC CLEANING MACHINES CAN HELP RETAIN AND ATTRACT WORKERS

The retail industry is known for high turnover—and high turnover has high costs. Adding to this challenge, tight labor markets have made it difficult for retailers to find—and keep—qualified, experienced and reliable staff. This is particularly true for some of the behind-the-scenes operations and facility management jobs in grocery retail, which often include repetitive, unglamorous responsibilities like facility cleaning. To remedy these current challenges, robotics offers several benefits that could help grocery retailers retain and attract employees.

Improving employee morale

First, robotics can aid employee retention by improving job satisfaction, performance and overall work quality. The high-tech equipment training involved enhances workers' skills, which can make them feel more valued and help them become more desirable employees (while expanding their career opportunities).

Reallocating staff resources

Robotic cleaning machines can also help companies repurpose existing workers. With less of their time spent doing rote, repetitive tasks, employees have more time to focus on other cleaning tasks like disinfecting high-touch surfaces, cleaning windows, bathrooms, stocking, emptying trash, etc.—ones that require a human to perform. Freeing workers up also creates the potential for them to interact with customers, upsell products, or get trained to do tasks that have a more direct impact on the success of your business.

Reducing turnover

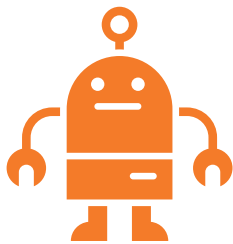
Providing workers with more satisfying, less mundane work can make them happier and more motivated. It can also increase their level of engagement because they don't have to spend as much of their time doing mundane, repetitive tasks. For a grocery retailer, having happier, more engaged workers leads to lower turnover, higher retention and lower costs, since fewer resources need to be devoted to hiring, interviewing and recruiting.

Attracting high-quality employees

For companies having trouble filling positions, robotic cleaning machines can help by enabling current employees to accomplish more in less time, requiring fewer workers to accomplish the work of a larger crew. And when it comes to attracting prospective employees, robotics brings with it a certain coolness factor that's attractive to those interested in working for a forward-thinking company. Embracing robotics creates the perception that a company is a better place to work, and one that values innovation. This can give a company a leg-up on the competition when it comes to attracting workers.

ROBOTIC CLEANING MACHINES CAN ENHANCE YOUR COMPANY BRAND

For grocers, adopting a robotic cleaning program can go a long way toward enhancing your company's brand image by positioning it as a forward-thinking, innovative leader. Adopting a robotics program is public relations fodder that can help companies garner attention, stand out from the competition, and boost internal morale. Company innovation is always a source of pride that motivates and excites employees, especially when it's combined with tangible benefits that improve their day-to-day lives. As a marketing tool, robotic cleaning machines provide the opportunity for new marketing initiatives that focus on how consistent, reliable cleaning is at the core of an exceptional customer experience.



Robotic cleaning machines can help a company create a better customer experience and deliver higher standards that enhance their overall brand—and keep customers coming back.

Health & safety-conscious

Studies show that clean facilities create measurable health and safety benefits—reducing employee absenteeism by as much as 46 percent.¹¹ And in public spaces like grocery stores, cleanliness—and spotless floors in particular—are essential for customer satisfaction. In this way, the improved performance robotic cleaning machines offer can help a company create a better customer experience and deliver higher standards that enhance their overall brand—and keep customers coming back.

Clean you can see

Robotic cleaning machines can also boost your brand status by their mere physical presence. While they offer the flexibility to operate any time, day or night, in all kinds of conditions, robotic cleaning machines can be a strong visible presence that causes customers to stop and take notice. A self-driving cleaning robot makes an impression in any environment. In a way, it's a kind of a moving billboard—an intangible benefit that can pay dividends through higher brand perception, customer affinity and recall. It's a visual representation of a company's commitment to innovation and safety that reflects positively on the brand. Which is why it's so important to choose a manufacturing partner who supports not just the machine itself, but through its expertise, guidance, and insight, the larger brand as a whole.

HOW TO CHOOSE A ROBOTIC CLEANING MACHINE PARTNER

Buying a robotic cleaning machine is a start. But learning to use it and maximize its full value is the real key to reaping the benefits. When it comes to purchasing, it's important to do sufficient research and choose a manufacturer who not only builds high quality, durable equipment, but who also offers the technical support and service, as well as the logistics and business expertise, to help companies effectively incorporate their new equipment into their operation, no matter the scale of their business.

The recent growth in the cleaning robot industry has meant many new entries into the cleaning machine market. Many of these companies come without much of a history or reputation. To get the most from your robotic cleaning machines, it can be valuable to select a manufacturing partner with a proven track record and reputation for quality, service, support, and training—one that knows what it takes to design industry-leading cleaning machines and integrate them smoothly into one's business operation. To find the partner that best aligns with your business and goals, you may want to research several manufacturers before making a decision.

Today's cleaning robots are truly capable of autonomously cleaning the floors of a grocery retail store. But make no mistake—a cleaning robot is not entirely autonomous. You cannot simply wheel a cleaning robot into your store, turn it on and expect it to begin cleaning. Effectively training, deploying and optimizing your robot utilization requires both expertise and an efficient process. When it comes to evaluating vendors of robotic cleaning machines, it's critical to look for more than a manufacturer. The most successful robotic cleaning deployments start with true partnership between you and the vendor. Here are three elements that play a vital role in the success—or failure—of a robotic cleaning deployment:



PEOPLE

Best-in-class vendors provide a comprehensive range of support from experienced people with specific expertise in deploying robotic cleaning machines in retail environments. Their people support your people with expertise and guidance on everything from training robotic cleaning routes and maintaining robotic cleaning machines, to how to optimize cleaning protocols and reallocate staff.



PROCESS

Just as you don't take an ad hoc approach to cleaning your facility, a vendor shouldn't take an ad hoc approach to deploying robotic cleaning machines in your facility. Leading vendors have developed proven processes — for evaluating robotic cleaning opportunities, efficiently training cleaning routes, leveraging performance data to improve cleaning efficiency, and more — that help you rapidly realize value and continually level up your robotic cleaning program.

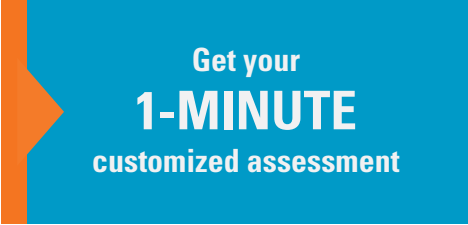


TECHNOLOGY

Most robotic cleaning machines use the same cleaning technology and equipment found on manually operated machines. Seek out a vendor with an established reputation for delivering reliable and durable equipment. But the cleaning hardware is just one part of the technology equation — the AI-driven “brain” of the cleaning robot is equally important. Best-in-class vendors leverage proven platforms that perfectly blend smart with easy. They use sophisticated AI capabilities to rapidly learn and safely navigate routes — and they provide an intuitive, easy-to-learn interface for your staff.

IS YOUR BUSINESS READY FOR CLEANING ROBOTS?

The advancement of robotic technologies for retail facility cleaning is allowing more grocery stores to realize the real-world promise of robotic cleaning, supporting their human workforce, their customer experience and their bottom lines. Most promising of all, leading vendors now make the deployment and utilization of robotic cleaning machines uncomplicated. Grocers can rapidly roll out robotic cleaning machines, thanks to intuitive user interfaces that are quick and easy to learn—and most begin realizing ROI more quickly than they had imagined.



Get your
1-MINUTE
customized assessment

Learn more about how Tennant's robotic cleaning technology is transforming grocery store cleaning: tennantco.com/robotics

NOTES:

¹<https://www.abiresearch.com/market-research/product/1029773-commercial-and-industrial-robotics/>

²International Federation of Robotics (updated April 2018). https://ifr.org/downloads/papers/IFR_The_Impact_of_Robots_on_Employment_Positioning_Paper_updated_version_2018.pdf

³McKinsey Global Institute (December 2017). Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation.

⁴International Federation of Robotics (updated April 2018). https://ifr.org/downloads/papers/IFR_The_Impact_of_Robots_on_Employment_Positioning_Paper_updated_version_2018.pdf

⁵McKinsey Global Institute (December 2017). Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation.

⁶Matthews, Kayla (May 2018). Robotiq. 10 Key Robotics Statistics You Need to Know. <https://blog.robotiq.com/10-key-statistics-about-robotics-you-need-to-know>

⁷Commercial & Industrial Robotics 2019, ABI Research

⁸ <https://www.consumerreports.org/grocery-stores-supermarkets/cleanest-grocery-stores-in-america/>

⁹https://www.tennantco.com/en_us/solutions/ec-h2O-technology.html

¹⁰Tennant (2015) Leveraging Data to Drive BSC Performance: A Practical Introduction to Asset and Cleaning Operations Management for Building Service Contractors.

¹¹Tennant (2015) Leveraging Data to Drive BSC Performance: A Practical Introduction to Asset and Cleaning Operations Management for Building Service Contractors.