



WHEN AUTOMATION IS THE ANSWER

See the challenges holding back small and mid-sized businesses—and how automation can help.

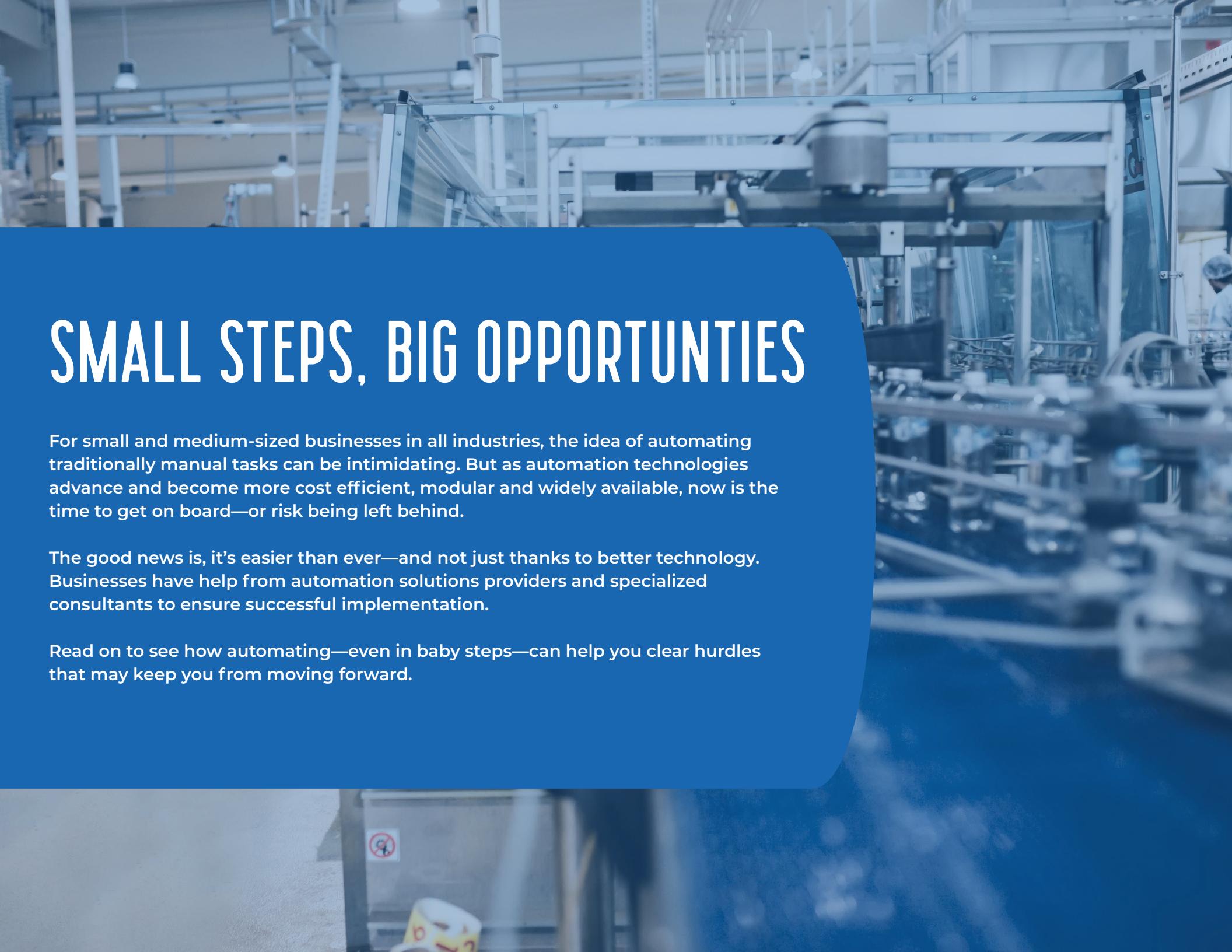
 AUTOMATE

SMALL STEPS, BIG OPPORTUNITIES

For small and medium-sized businesses in all industries, the idea of automating traditionally manual tasks can be intimidating. But as automation technologies advance and become more cost efficient, modular and widely available, now is the time to get on board—or risk being left behind.

The good news is, it's easier than ever—and not just thanks to better technology. Businesses have help from automation solutions providers and specialized consultants to ensure successful implementation.

Read on to see how automating—even in baby steps—can help you clear hurdles that may keep you from moving forward.



CHALLENGE #1: RISING COSTS ARE KILLING YOUR BOTTOM LINE

To say the last couple of years have been hard on small and medium-sized businesses would be an understatement. While some segments have been hit harder than others (restaurants, hospitality and retail), all industries are feeling the pressure of rising labor costs, supply chain issues and inflation.

[According to the National Federation of Independent Business](#), small business owners across the country are feeling the pinch.

The group's Small Business Optimism Index dipped last fall, "weighed down by more negative sentiments." In fact, the number of respondents who expect better conditions over the next six months fell to its lowest reading since November 2012.

While many of the factors responsible for increasing costs are out of their control, businesses implementing automation are realizing better cost efficiency.

Justifying the initial investment in automation can often be the biggest hurdle, but [resources abound](#) to help crunch the numbers (see right).

HOW MUCH WILL YOU SAVE?

While cost savings related to labor vary greatly by industry and application, [one estimate in the manufacturing space](#) calculated an annual savings of \$280,000 when accounting for a project with just three employees.

In this scenario, the automation solution (a \$500,000 investment) would take just 1.47 years to begin accruing substantial ROI.

OPERATORS PER SHIFT	AUTOMATION	MANUAL LABOR
	\$35,100	\$315,900
<small>1 shift/day using automation</small>	<small>3 shifts/day (\$17.55/hr)</small>	



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AUTOMATION SOLUTIONS

As anyone in the business of producing goods knows, time is money. And that's where automation comes in—helping businesses manufacture or process faster and increase throughput.

It's a boon to any bottom line and the market at large, which is still feeling the long-term effects of COVID-induced supply shortages.

Food processing is just one industry that is taking note: According to the Association for Advancing Automation, robotic system orders by food and consumer goods manufacturers grew by 56 percent in 2020.

While traditional assembly line automation has been around for decades, new advances in vision technology are allowing robots to complete tasks that were once thought to be impossible—from precision butchering in meat processing plants to robots that can pick and place objects of varying weights, shapes and orientations.

Another typically costly task that's being automated is quality control. New sophisticated vision systems allow manufacturers to inspect food products and ingredients (or any other manufactured goods, for that matter) much faster and without the need for less precise human labor.

CHALLENGE #2: HIRING CAN'T KEEP UP WITH GROWTH AND EMPLOYEE TURNOVER IS HIGH

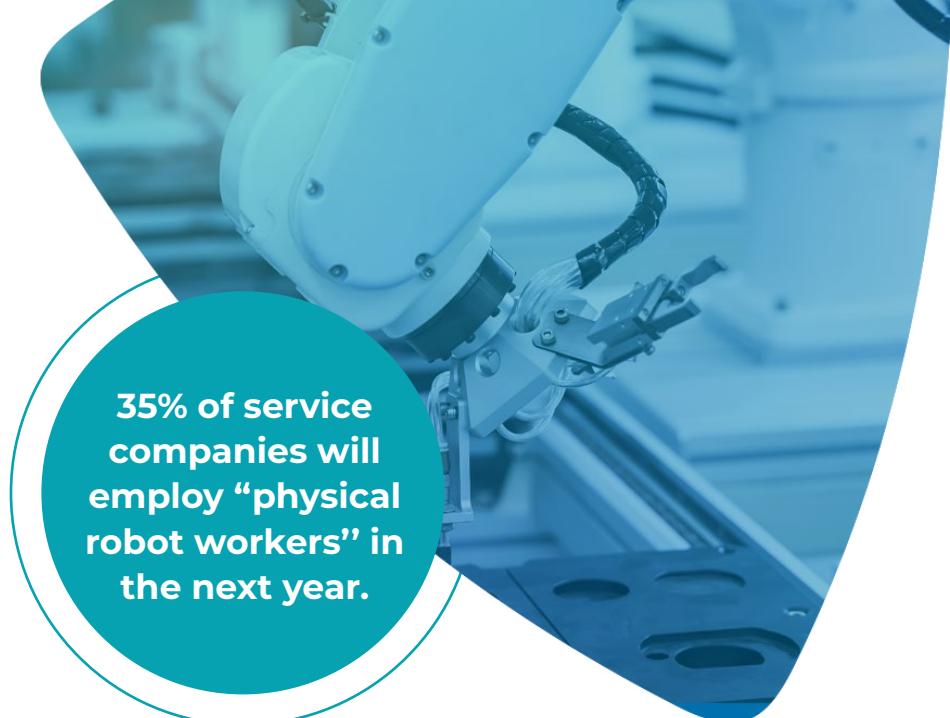
The cost of labor is one thing, but what about businesses that can't even manage to find (or keep) employees? Businesses from foodservice to logistics are facing one of the toughest labor markets in recent history—and no amount of incentives or wage increases can fill the gap.

Keeping employees is another challenge. Employers are still feeling the effects of 2021's "great resignation", and it seems that employees have a higher standard for on-the-job satisfaction. Keeping employees for especially monotonous, laborious or otherwise undesirable tasks has become next to impossible.

AUTOMATION SOLUTIONS

Automation frees up valued employees from the most undesirable tasks—creating a more fulfilling work experience and better opportunities for career development.

Industries that could realize the biggest benefits in this vein are those hit the hardest by labor shortages: retail, foodservice and grocery, to name a few. Because these industries rely heavily on human labor for typically monotonous tasks—from stocking shelves to mopping floors—automation is more compelling than ever.



35% of service companies will employ "physical robot workers" in the next year.

According to a recent prediction from Forrester, 35 percent of service companies will employ "physical robot workers" in the next year. [ABI Research also predicts a rise in mobile robots](#), including autonomous mobile robots (AMRs), robotic forklifts/tuggers, bipeds, quadrupeds and delivery robots.

In consumer-facing industries like retail and foodservice, this is driven by relatively recent advances in sensors, vision and motion control technologies that make these solutions safer and more efficient than ever.

Smaller businesses in these segments can start slowly—with just a single cleaning robot. On the other end of the spectrum, mid-sized retailers might take a page from Amazon's book in the not-so-distant future: using vision and AI automation solutions to enable "grab-and-go" retail concepts that won't require cashiers.

CHALLENGE #3: YOU CAN'T KEEP UP WITH DEMAND

Struggling to keep up with demand has been a big theme over the last two years, and not just for those who produce physical goods. In fact, no one saw greater demand—and headaches—than the logistics industry.

Supply chain issues started with COVID-induced production snags. But soon enough, talking heads blamed bottlenecks at distribution centers, transportation companies and ports. The goods were there—but logistics companies couldn't load, transport and unload fast enough.

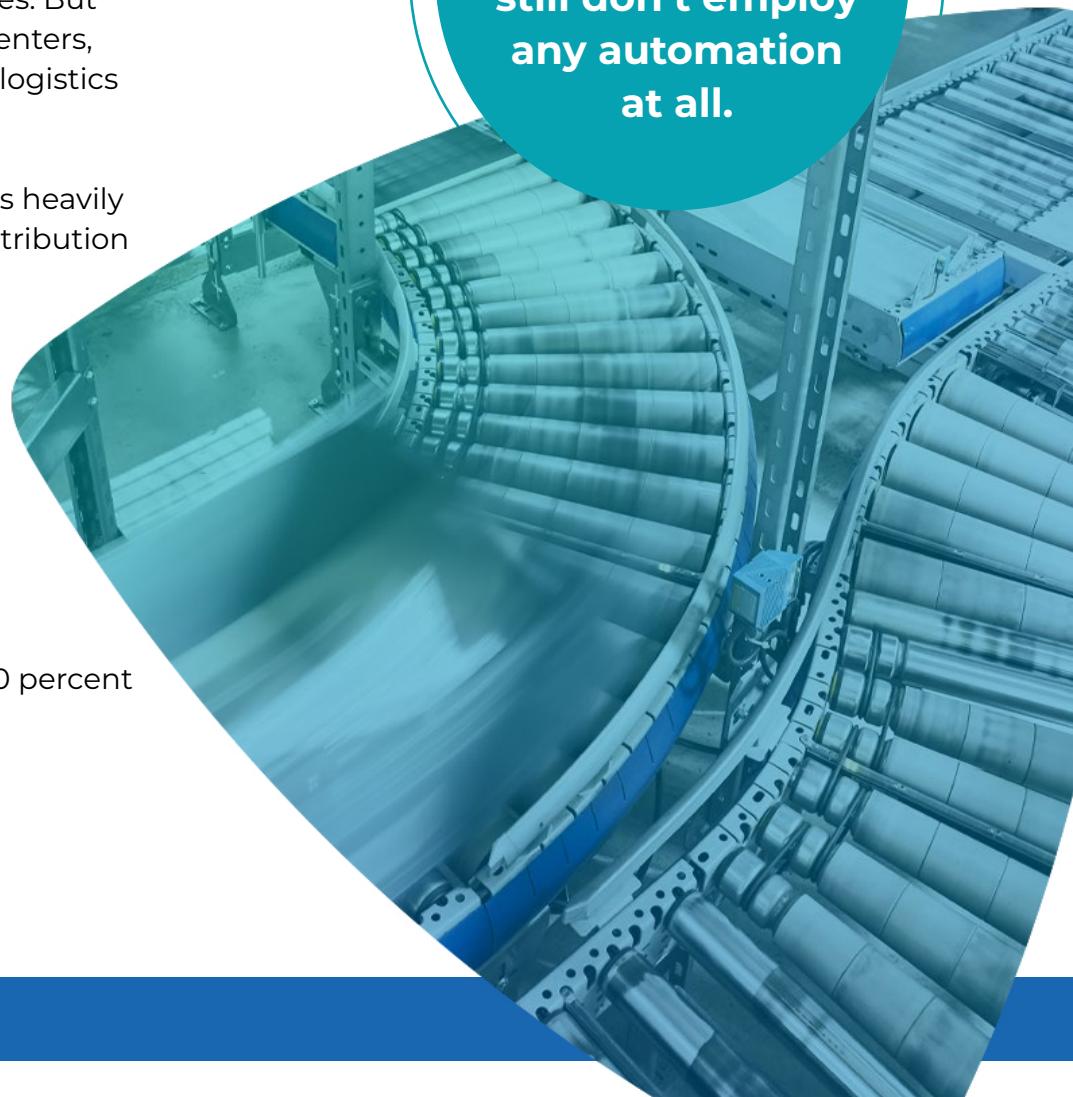
And it's not just UPS, FedEx and DHL. This fast-growing industry is heavily composed of smaller and mid-sized players—from third-party distribution and fulfillment to transportation and beyond.

What's more, manufacturing businesses (large and small) that warehouse, fulfill and transport their own goods played a part in the disruptions.

The industry is slowly but surely getting on board to change that: [the growth of robots sold for logistics applications](#) is well ahead of hospitality and defense.

But there's still room for massive growth, given that more than 80 percent of warehouses today still don't employ any automation at all.

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AUTOMATION SOLUTIONS

The good news is smarter, more accessible automation offerings are allowing companies to take incremental steps toward automating—without the need for Amazon-level scale.

Automated forklifts, in particular, are a perfect “starter” application for any business that involves material handling.

Not only do traditional forklifts require a higher degree of skilled/trained labor (hard to come by these days), but the U.S. Occupational Safety and Health Administration states they're responsible for a whopping 96,700 injuries and 85 deaths per year, on average.

As of now, only 1 percent of forklifts sold are automated, according to ABI Research.

THE CONSTRUCTION CRUNCH

Construction is another segment hard-hit by unmet demand. Automation can help here, too, in much the same way that it would in a manufacturing or warehouse environment: moving heavy materials from place to place.

Newer and more novel uses include using robots for repetitive tasks like brick laying or taking measurements. This not only speeds things up but the precision can help avoid costly errors.



Finally, increasing capacity to meet demand can be as simple as maximizing physical space—something that has been in short supply (or at least very pricey) during the explosive growth in the logistics space.

Companies are replacing space-hogging conveyor systems with autonomous mobile robots (AMRs) to take advantage of as much vertical space as possible.

Robots also allow for tighter packing of inventory (narrower aisles and more stacking) since they're stronger and more nimble than humans.

CHALLENGE #4:

YOUR CUSTOMERS DEMAND CONVENIENCE AND CUTTING-EDGE TECHNOLOGY

The statistics to support it are prevalent: Business clients and consumers alike want to work with companies that embrace and implement the latest technologies.

It's not just a matter of better products and faster service. On a psychological level, technologically advanced companies seem preferable, particularly to younger audiences.

In fact, 41 percent of young people say they want the opportunity to work with the latest innovations, and 20 percent said the chance to work with robotics and AI would be a big draw to work for a company.

It's an industry-agnostic trend, but certain segments are feeling even stronger pressure: in foodservice, retail and grocery where customers demand faster service and convenience by way of automated ordering, service and checkout; in manufacturing where clients demand faster production, higher quality and lower prices; and even in segments like agriculture where commoditization demands that growers find more cost-efficient ways to produce.





AUTOMATION SOLUTIONS

The automation solutions here are as varying as the industries that need them: from robot servers at restaurants to delight customers (and keep service speedy) to the use of drones in farming to surveil and analyze crop health.

Vision and AI technologies are crucial to give automated systems the eyes (and brains) they need to get the job done—while impressing clients and consumers.

New image sensor technology (including 3D time-of-flight sensors and nonvisible image sensors such as near infrared and shortwave infrared) has enabled greater sophistication and big reductions in cost.

These advancements go hand in hand with better processing, analysis and AI technologies, not only helping automated systems see, but also interpret and solve.

Imaging and software developments in this vein also help businesses deliver peace of mind for customers, because they enable flawless production and quality control and largely remove the chance for human error.

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CHALLENGE #5: YOU NEED BETTER BUSINESS INTELLIGENCE, BUT DON'T KNOW WHERE TO START

The idea of “digital transformation” is inescapable these days. But for smaller and mid-sized businesses with little-to-no IT resources, the task can feel daunting.

Just as digital process automation (CRMs, marketing automation, etc.) has become more intuitive and accessible to the non-technical among us, so have automation systems.

Leadership in all industries—from grocery store managers to manufacturing engineers—are coming to rely on automation as much for the physical work it enables as for the business intelligence it provides.

AUTOMATION SOLUTIONS

Most of today’s automated systems come with software tools that not only deliver valuable data, but also analysis of that data that is easy to decipher and act upon.

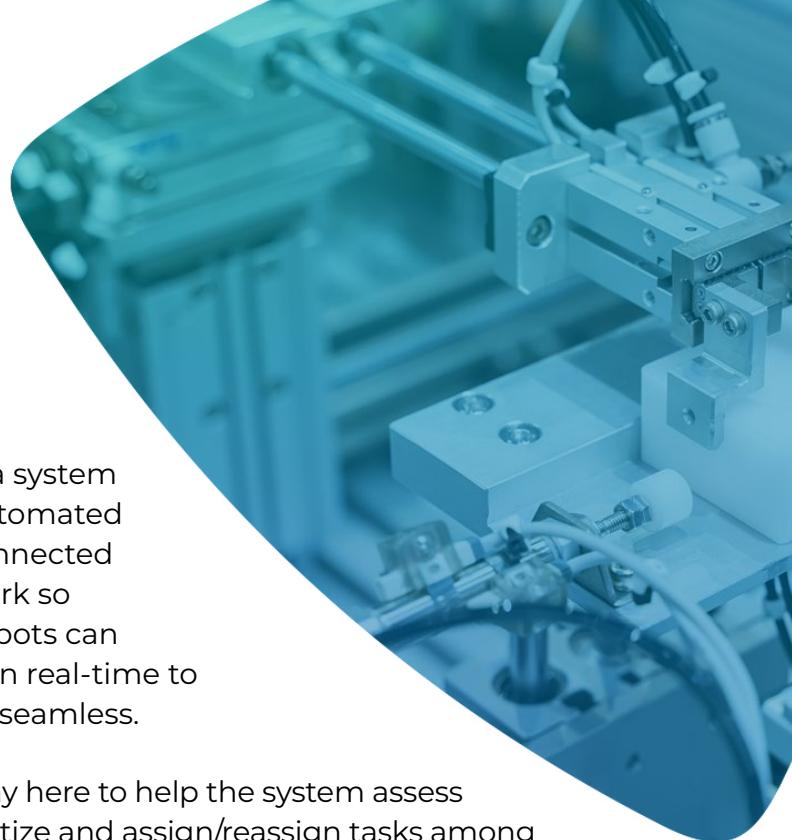
They don’t stop there. From predictive analytics to autonomic (or self-healing) capabilities, today’s automation can actually step in and make business decisions for you.

One example is a system with multiple automated components, connected through a network so the individual robots can “communicate” in real-time to keep operations seamless.

AI comes into play here to help the system assess activities to prioritize and assign/reassign tasks among the robots.

Predictive analytics within the system can alert managers of potential future issues and required maintenance to avoid costly downtime.

AI will also help automated systems learn and get better over time, so they’ll require far less human intervention. [Gartner predicts](#) that autonomic systems will be the wave of the future because they “dynamically modify their own algorithms and behaviors without an external software update, enabling them to rapidly adapt to new conditions in the field, much like humans can.”



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