



# AUTOMATE CANADA MAGAZINE

The official magazine of Automate Canada.

Issue 8, Spring 2026

## Learning from the Past, Empowering Canada's Future

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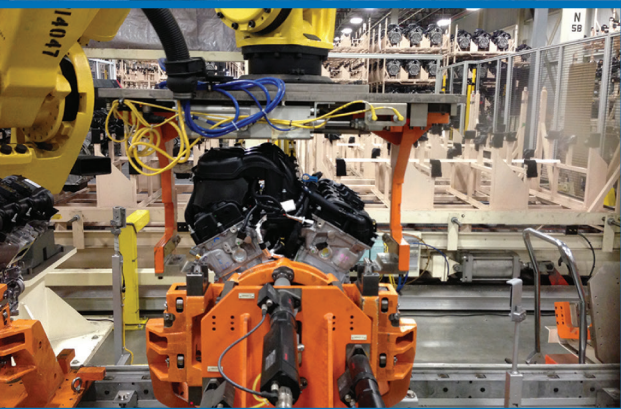
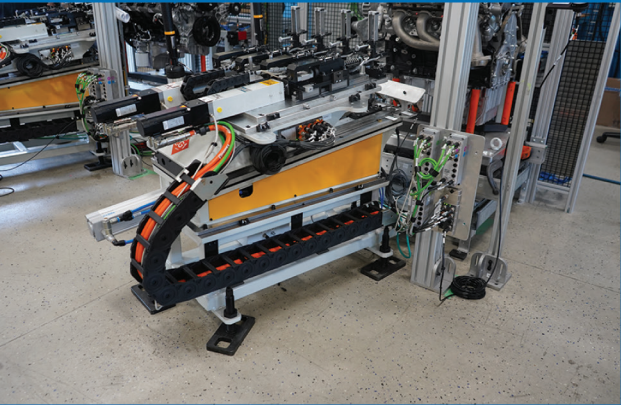
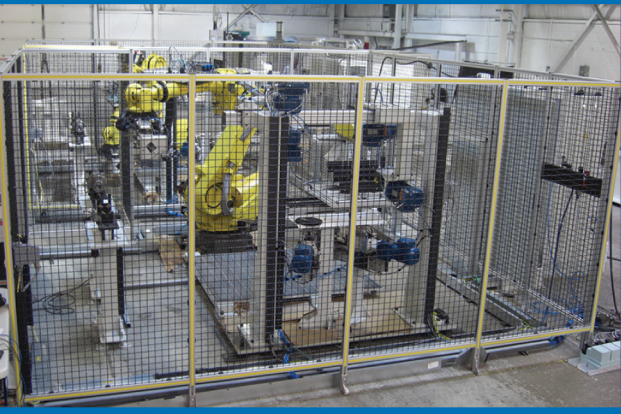
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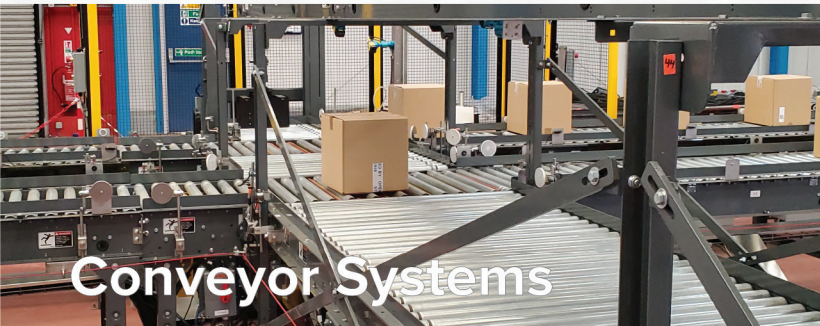




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Cover photo courtesy of ONYX Engineering.

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### Published For:

#### Automate Canada

Institute for Border Logistics and Security  
3475 Wheelton Drive  
Windsor, Ontario N8W 0A6  
Email: [info@automatecanada.ca](mailto:info@automatecanada.ca)  
Tel: (519) 817-6260

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[sales@matrixgroupinc.net](mailto:sales@matrixgroupinc.net)  
[www.matrixgroupinc.net](http://www.matrixgroupinc.net)

### President & CEO

Jack Andress

### Operations Manager

Shoshana Weinberg  
[sweinberg@matrixgroupinc.net](mailto:sweinberg@matrixgroupinc.net)

### Senior Publisher

Jessica Potter  
[jpotter@matrixgroupinc.net](mailto:jpotter@matrixgroupinc.net)

### Publishers

Julie Welsh, Christine Scarisbrick

### Editor-in-Chief

Shannon Savory  
[ssavory@matrixgroupinc.net](mailto:ssavory@matrixgroupinc.net)

### Editors

Paul Adair, Jenna Collignon, Rich Cowan,  
Kaitlin Vitt

### Finance / Administration

Lloyd Weinberg, Nathan Redekop  
[accounting@matrixgroupinc.net](mailto:accounting@matrixgroupinc.net)

### Director of Circulation & Distribution

Lloyd Weinberg  
[distribution@matrixgroupinc.net](mailto:distribution@matrixgroupinc.net)

### Sales Manager

Jeff Cash  
[jcash@matrixgroupinc.net](mailto:jcash@matrixgroupinc.net)

### Matrix Group Publishing Inc. Account Executives

Ana Baez, Colleen Bell, Jackie Casburn, Chandler Cousins, Paolo Cruz, Rob Gibson, Wilma Gray-Rose, Jim Hamilton, Craig Hornell, Frank Kenyeres, Brendan Kidney, Sandra Kirby, Andrew Lee, Brian MacIntyre, Chad Morris, Lynn Murphy, Monique Simons

### Layout & Design

Kayti McDonald

### Advertising Design

James Robinson

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**B**y now, everyone has seen videos of humanoid robots doing work, dancing, running, and other miraculous feats! If you have not, then

I would like to know what rock you are living under. (I joke, of course). Some of these videos are fake, some have the robots controlled remotely via a virtual reality headset, and some are 100% real.

### Concentration of technologies in U.S. and China

Humanoid robot companies are popping up all over the world and, not surprisingly, the heaviest concentration of these companies is in the United States and China.

In the U.S. the three largest of these are, arguably:

- 1. Tesla** due to the vast amount of capital they are spending on development and manufacturing.
- 2. Boston Dynamics** (owned by Hyundai) with their relatively new Atlas robot.
- 3. Figure AI** with their Figure 02 and 03 robots. They are also coming off a 40B valuation round.

In China, there are a dizzying number of companies in this space. A couple worth noting are **Unitree**, which has been at most of the larger industrial trade shows, and **Agile Robotics**, which has recently bought Thyssen Krupp System

## Are We at the Cusp of the Age of Humanoid Robotics?

Engineering out of Germany (with a large facility in Auburn Hills, Michigan, and well known in the automotive machine building circles).

In Canada we have two companies (that I know of), **Sanctuary AI**, out of Vancouver, British Columbia, and **Mirsee Robotics**, out of Cambridge, Ontario.

### Convergence of factors

With the convergence of miniaturized motion control, advanced materials, 3D printing, advanced mechanical engineering design techniques, and mass production to bring the cost of business down and, most importantly, artificial intelligence (AI), we are on the cusp of seeing humanoid robots as common.

Getting these robots to autonomously or semi autonomously do tasks is not necessarily easy. A lot of work is – and still needs to – go into teaching them, ensuring safety around humans, and situational awareness (like not falling off a step or bumping into a post). Initial humanoid applications will be in dangerous or remote environments, as well as to augment labour shortages in industrial settings, and then niche applications will follow, such as robots in hospitals to do routine tasks, and routine material handling.

### Potential uses and responses

Imagine a fleet of robots, each continuously learning new skills in the field. As soon as one robot masters something new, it sends that knowledge back to a central AI hub. That hub then distributes the newly acquired skill across the entire fleet. The result? Learning doesn't happen one robot at a time – it scales instantly. You move from linear progress to exponential capability growth, unlocking an ever-expanding range of applications and use cases.

So, what should we do with this information? Here are some options:

1. Ignore it and assume that AI and humanoid robotics will never quite

deliver, as we have all seen in sci-fi flicks.

2. Invest in some of these companies.
3. Begin looking at applications and opportunities (for your businesses) that perhaps are one to two years into the future.
4. Wait and see before deciding on options 1, 2, or 3.

With the convergence of miniaturized motion control, advanced materials, 3D printing, advanced mechanical engineering design techniques, cost effective mass production, and artificial intelligence, the emergence of Humanoid Robots as commonplace does not seem so far off in the future.

### Future uses

I recently talked to Tarek Rahim, CEO of Mirsee Robotics, and he said, "The humanoid industry represents a pivotal opportunity to leverage our world-class AI expertise and transform it into tangible manufacturing leadership on the global stage. By fostering this emerging sector now, we can position ourselves at the forefront of the next industrial revolution while creating high skilled jobs and sustainable growth for generations to come."

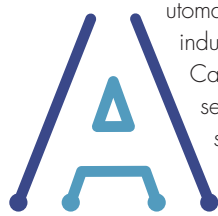
Good luck in making your decision. While all indications point to wide scale manufacturing and adoption, we still may need another year to be certain. A large part of the success in the wide adoption of humanoid robotics will depend on the capability and utilization of AI to ensure safety and localized awareness. I'm interested to see where this lands! 🌸



# UP FRONT



## All About Automate Canada



Automate Canada is a Canadian industry association representing Canada's industrial automation sector, service providers, and suppliers. Founded in 2018 by the Canadian Association of Moldmakers (CAMM) and supported by Invest Windsor-Essex and NRC-IRAP, Automate Canada is an informative community of vibrant industry leaders who are facilitating the development and adoption of technology.

Canada has established a reputation as a hub for innovation in manufacturing automation and we are proud to be a part of such an impressive industry. Representing one of Canada's most essential technology industries, industrial automation contributes an estimated \$7 billion to Canada's economy yearly and creates approximately 40,000 jobs per year. Our industry contributions continue to grow and expand as technology continues to advance.

Automate Canada leads, advocates, and showcases the Canadian automation industry strengths and capabilities. We assist and promote our members and engage in activities that support business success and innovation expertise. We invest in market and industry research to identify emerging trends and issues within our industry and assist our members with any challenges. We have fostered relationships with trade commissioners, government officials, and international companies to ensure our place as a voice for our members and industry.

Our strategic pillars provide a roadmap to represent our industry locally, nationally, and globally and structures our focus when advocating to government and developing new programs. Our pillars and roadmap also ensure that we are addressing the needs of our member companies.

One of our pillars is Skill and Talent Development within which we work to address skilled labour shortages and provide our members with the knowledge to transition to Industry 4.0 practices and digital transformations. Our efforts are geared towards methods of developing a talent pipeline of skilled and ready personnel interested in advanced manufacturing. We work with partners, such as We Build a Dream and the YMCA, to attract under-represented groups to our industry and to develop

programs to encourage their involvement. We create and provide access to learning and training programs for our members and promote upskilling and reskilling opportunities to ensure our members and their employees are ready to adopt new technologies.

Automate Canada also embraces equality, diversity, and inclusion practices and provides information for our members to adopt these practices. We work with federal and provincial governments to advocate for the importance of skill development in our industry. We develop youth-focused initiatives and work with secondary and post-secondary institutions on curriculum development to ensure the training being provided is keeping up with innovation and preparing youth to enter the workforce, while cultivating an interest in advanced manufacturing.

Another one of our strategic pillars is Branding and Collaboration. Within this pillar we develop partnerships to promote 'Made in Canada' products as good value with high quality. We work with our partners to ensure Canadian industrial automation maintains their reputation as innovative and reliable while promoting our members to increase global relationships and foster business opportunities.

Our strategic pillar, Technology and Innovation, aims to support our members in their transition to Industry 4.0 practices and digital transformations. We promote a culture of innovation and ensure our members have access to funding information, resources, and tools to facilitate their transition. We promote and participate in research and development projects, as well as emerging technologies. We work with our members while developing new technologies and IPs, while performing research and development activities or commercialization plans.

We continue to add programs and services for our members including discount and affinity programs, training and development opportunities, and marketing and promotion support. We have a full calendar of upcoming events, including networking opportunities, trade shows, and learning and training events. We will continue to develop creative and innovative ways to benefit our members.

Please contact [info@automatecanada.ca](mailto:info@automatecanada.ca) if you have any questions. 🍁

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## Why Should You Join Automate Canada?

Canada has an established global reputation as a hub for innovation in manufacturing automation.

Automate Canada leads and advocates for the Canadian automation industry, assisting and promoting our members.

Automate Canada is a national association representing companies involved in the industrial automation industry as well as service and supplier companies which provide specialized technologies to our industry.

### Our mandate is to:

- Promote and develop the global exposure of the Canadian industrial automation industry.
- Be the voice of our industry to all levels of government. Automate Canada will focus on trade discussions regarding the North American Free Trade Agreement (NAFTA) / the United States-Mexico-Canada Agreement (USMCA), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), Canada-Mercosur, and the Trans-Pacific Partnership (TPP), as well as on intellectual property, research and development, and commercialization issues.
- Encourage the development and adoption of technology in the manufacturing sector as a whole, as well as in the industrial automation industry,

and in partnership with post-secondary educational institutions.

- Develop the next generation of highly skilled personnel through youth-focused initiatives.
- Assist small to medium enterprises (SMEs) in the industrial automation industry to grow their businesses locally and globally.
- Be committed to working with other organizations and associations to build global relationships.
- Assist members to identify opportunities for export.
- Invest in market research and industry research in order to identify emerging issues and trends affecting our industry and to target growing markets.
- Support Canadian SMEs in their path to prosperity, increased competitiveness, and improved capacity domestically as well as in the international marketplace.
- Showcase our industry's capabilities and strengths on a domestic and global stage through a range of direct activities and materials, like printed and digital directories, online presence, trade shows, B2B meetings, and site visits.

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# THIRTY-FIVE OF CHANGE:



## What the Automation Industry Has Learned – and Where It’s Going

By Rich Cowan, Staff Writer



Co-founder and President, Dave Nixon. Photos courtesy of ONYX Engineering.

**T**hroughout its history, the automation industry has consistently been reshaping how things are made, processed, and delivered in Canada. While its work often happens behind factory walls and inside

control panels, its influence reaches into nearly every sector of the economy. ONYX Engineering, along with a number of other Canadian companies, has had a front-row seat to the evolution of the industry. Here the reflections of the company’s leaders offer an insider’s view on how the industry has changed, what it has endured, and why automation is no longer optional for Canada’s future competitiveness.

### Diversity through disruption

Canadian automation has faced no shortage of disruptions. Economic downturns, technological shifts, and global crises have tested even the most established companies. According to co-founder and Vice-President, Dino Oliva, the pandemic stands out as one of the most significant challenges they’ve had to face. Although ONYX, which is marking its 35th year in business in 2026, was deemed an essential service and continued operating, the uncertainty of the period underscored how critical agility and responsiveness had become to not just survive, but to support their customers who were navigating unprecedented conditions.

Earlier shocks left similarly lasting impressions. The 2008 global financial crisis, for example, hit Canada’s automotive manufacturing base hard. ONYX President and co-founder Dave Nixon recalls that period as a turning point and a lesson learned. “Automotive slowed dramatically,” he says, “We have a heavy presence in other industries, not just automotive. Food and beverage, water and wastewater, and infrastructure projects continued. That balance made all the difference.”

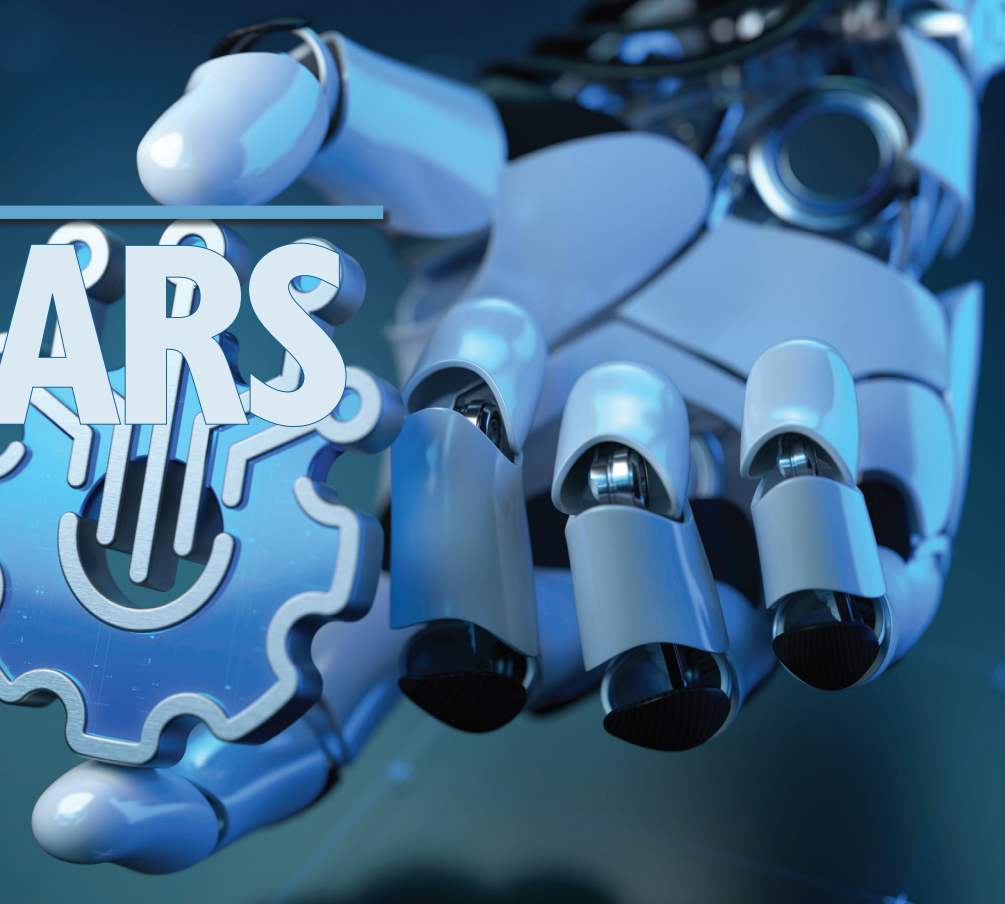
That experience reinforced a valuable lesson: diversification is not just a growth strategy; it can prove to be a survival strategy. Like a balanced investment portfolio, spreading risk across multiple industries may limit explosive growth during boom times, but it also helps companies avoid devastating lows. For ONYX, that approach translated into fewer dramatic swings as well as long-term stability, even as competitors struggled or fell out of the market.

### A different pace for technology

From the outside, automation appears to be advancing at a rapid pace. Connectivity, data analytics, and digital tools have accelerated dramatically, particularly over the past decade. Inside industrial facilities, however, that is not always the case. Many Canadian plants are still reliant on systems that were installed in the 1980s, or earlier. Nixon recalls working with facilities where core equipment dates to the 1960s and



Co-founder and Vice-President, Dino Oliva.



Water/wastewater outdoor pump control panel ready for delivery to a new residential development in Southern Ontario.



Servicing of a large industrial control panel for an interior parts bonding project in the automotive industry nearing completion.



Panels for an Ontario College training lab. ONYX Engineering is committed to STEAM and post secondary learning.

continues to operate reliably. He says, "Some are operating plants on equipment that's 25 or 30 years old, it's quite common, and they're still running."

This longevity is typical in industrial automation. Unlike consumer electronics, these control systems are designed to run for decades. Replacing them is expensive, disruptive, and difficult to justify if they remain functional. As Nixon puts it, people replace smartphones every few years, "but they don't rebuild plants that often."

While the pace of innovation has accelerated, both Nixon and Oliva caution against overstating the idea of constant technological "leaps." Nixon says, "We haven't had that quantum leap we used to have. You can make changes without having to rewire everything if you want to change how the machine works."

The most significant transformation – moving from relay logic to programmable logic controllers (PLCs) – happened decades ago. Since then, progress has largely been incremental: smaller and faster hardware, more capable software, improved networking, and tighter integration between systems.

Where the most profound change has occurred is in connectivity. Nixon explains, "The once stand-alone shop floor

is now increasingly linked to IT systems, management dashboards, and enterprise planning tools."

Data that was once difficult or too expensive to collect can now be captured and analyzed in real time. The potential for improved decision-making, efficiency, and predictive maintenance has never been greater.

### **AI: Already here, but not quite yet**

Artificial intelligence (AI) is the latest conversation in automation, though its real-world impact remains unknown. According to Nixon, most Canadian manufacturers are still "kicking the tires," experimenting with AI-enabled vision systems, analytics platforms, and generative tools to understand where real value lies. AI is still something of an unknown quantity. As Nixon puts it, "Many are still trying to figure out what they can really get out of it"

So far, the most immediate benefits have appeared in documentation, reporting, formatting, and data organization. Using AI to assist with manuals, procedures, and compliance documentation has delivered clear time savings. Fully autonomous AI-driven process control, however, remains largely aspirational.

That said, Nixon believes that AI could eventually represent the next true step in automation. When systems can provide real-time feedback, learn from outcomes, and adapt process parameters dynamically, the impact could rival earlier

revolutions in industrial control. "It has enormous potential," he says, "but the industry isn't there yet – and we need to be careful and deliberate when it gets closer."

### Costs, risks, and returns on investment

One of the ongoing challenges in automation is balancing the cost of modernization against the return on investment (ROI). Many Canadian facilities continue to operate aging equipment not because they don't understand the benefits of upgrading, but because the payback isn't always obvious. Nixon likens it to maintaining a classic car, "I mean, you can keep your 1960s car running if you want to. Is it efficient? No. You're getting five miles to the gallon rather than 25 or 30."

Similarly, legacy systems can keep running, although often at the cost of efficiency, energy consumption, and risk.

Oliva emphasizes that risk tolerance varies widely by operation. Some facilities can afford downtime; others cannot. Seasonal producers with short production windows face especially high stakes. "If something fails during peak season and parts aren't available," he notes, "recovery times can stretch from weeks to months. That's where the real cost shows up."

Labour pressures increasingly factor into calculations. Rising wages, demographic shifts, and changing skill sets have influenced industry's response

to automation, not as a way to replace workers, but as a way to do more with the workforce available. Robotics, machine vision, and automated inspection can free employees from repetitive tasks, allowing them to focus on higher-value work.

### Skilled trades in light of automation

Despite fears about job displacement, the automation industry continues to face labour challenges, especially in the skilled trades. Oliva points out that technology has always demanded continuous learning. "Many roles that exist today didn't exist 10 or 15 years ago, and adaptability has become one of the most valuable traits in the workforce."

Nixon argues that the issue is less about a shortage of skilled labour than it is a misdistribution of it. For years, trades were undervalued while software and professional services were elevated. That perception is slowly changing as people recognize that skilled trades are among the least likely to be fully displaced by AI in the near-term.

Systems integration, machine tools, and plant-floor engineering often struggle to compete for talent against high-profile tech firms. Closing the knowledge gap, by showing students and potential recruits what modern automation actually looks like, is critical for long-term sustainability.

That being said, there are concerns that the increase in industrial automation could lead to the replacement of real jobs

for real people. Nixon challenges this assumption, "The big thing is, we're not trying to displace people. We're trying to make sure that companies can make stuff with the people they have, and with a diminishing number of people."

### Automate Canada's role

As one of the founding members, ONYX has seen the growth, impact, and potential of Automate Canada. As Oliva recalls, "It existed initially as part of the Canadian Association of Mold Makers (CAMM) but formed from a realization that a good part of what they do in the industry relates to control systems. Over time, it kind of evolved into an association."

As for now, he states, "It has certainly changed and strives to do the things that are needed. We see a need for it in this country, especially now, to give a voice to automation companies in Canada."

### Automate or fall behind

As Canada looks to improve productivity and global competitiveness, embracing automation is no longer optional – it is essential. Chris Uszynski, Business Development Manager with ONYX, sums it up bluntly, "I think the overall message for industry is, automate or die."

Oliva adds, "We heard recently that in the G8, Canada is number eight as far as gross domestic product (GDP) per capita. The only way we can improve on that is to automate instead of just selling raw materials."

Uszynski continues the thought, "It means investing not just in the office, but on the shop floor." Improvement also requires moving beyond reliance on raw material exports and exchange rates, and toward value-added manufacturing supported by advanced automation and skilled people.

After 35 years, the message from these automation veterans is clear: success requires adaptability, financial discipline, selective growth, and a willingness to keep learning. The journey has been challenging and unpredictable, but, as Nixon reflects, it has also been deeply rewarding. As the next chapters continue to unfold, the role of automation in shaping Canadian industry, and the broader economy has never been more critical. 🇨🇦

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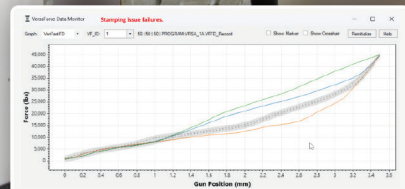
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# SMART SOLUTIONS:

## Navigating Growth in a Changing Automation Landscape

By, Rich Cowan, Staff Writer



Automation in all its forms has been transforming manufacturing for decades. Stories like the one told by Robin Levesque, President of Adesco of North

America Limited, help to illustrate that evolution. Levesque's career spans the industry's shift from transfer bars and floppy disks to robots, vision systems, and self-learning inspection.

### Through the lens of time

As a company, Adesco has roots going back to 1988, when automation meant something very different from what it does today. Levesque recalls, "Early systems were built around transfer machines – long, fixed lines where a raw block would lift and transfer from station to station. Each station would perform a specific task in a tightly timed sequence, often within a 20 to 30 second window. Deep holes might be drilled halfway at one station and finished at the next; threads were cut later in the line."

These systems were robust and fast, but inflexible. A design change often meant scrapping expensive tooling and rebuilding entire spindle assemblies. While it delivered volume and consistency, that first era of automation came with a cost: a lack of adaptability.

When Levesque joined the industry in the late 1990s, a transition was already

underway. Computer numerical control (CNC) machining centres were becoming more common, and with them came a fundamental shift in how manufacturers thought about automation. Instead of fixed mechanical assets, companies could load engine blocks robotically – often using gantries – and run longer cycles with greater flexibility. A change in part design no longer required the expensive and time-consuming tearing out of hardware; it could be handled simply with a change in code.

"That was a huge benefit," Levesque explains. "Previously you would be in a scrap spindle scenario and build a new one. With CNCs, you just change the program."

### Evolving technologies shaping industry

This flexibility reshaped not only production lines, but also the business models of automation companies. Adesco evolved from a design-focused organization – with dozens of mechanical engineers producing drawings for others to build – into a full-service integrator. The company began assembling its own equipment, eventually manufacturing all critical components in-house. That capability made true turnkey automation possible: identifying a customer's problem, designing a solution, building it, and integrating it directly into their line.

As the hardware evolved, so did motion control. Early automation relied heavily

on hydraulics – fixed motions powered by tanks and valves. Servo systems existed but were expensive and difficult to justify. Today, servos are ubiquitous. Their precision and programmability allow manufacturers to control motion profiles in ways that were once impossible, opening the door to more complex, adaptable processes.

Cost, again, was the key driver. Levesque likens this to "flat-screen TVs that once sold for tens of thousands of dollars and now sit in grocery store aisles for a few hundred; automation technologies became cheaper, better, and more accessible."

Vision systems, caller ID-style part identification, and 3D computer-aided design (CAD) tools followed the same route. What once required expensive Unix workstations now runs on everyday PCs.

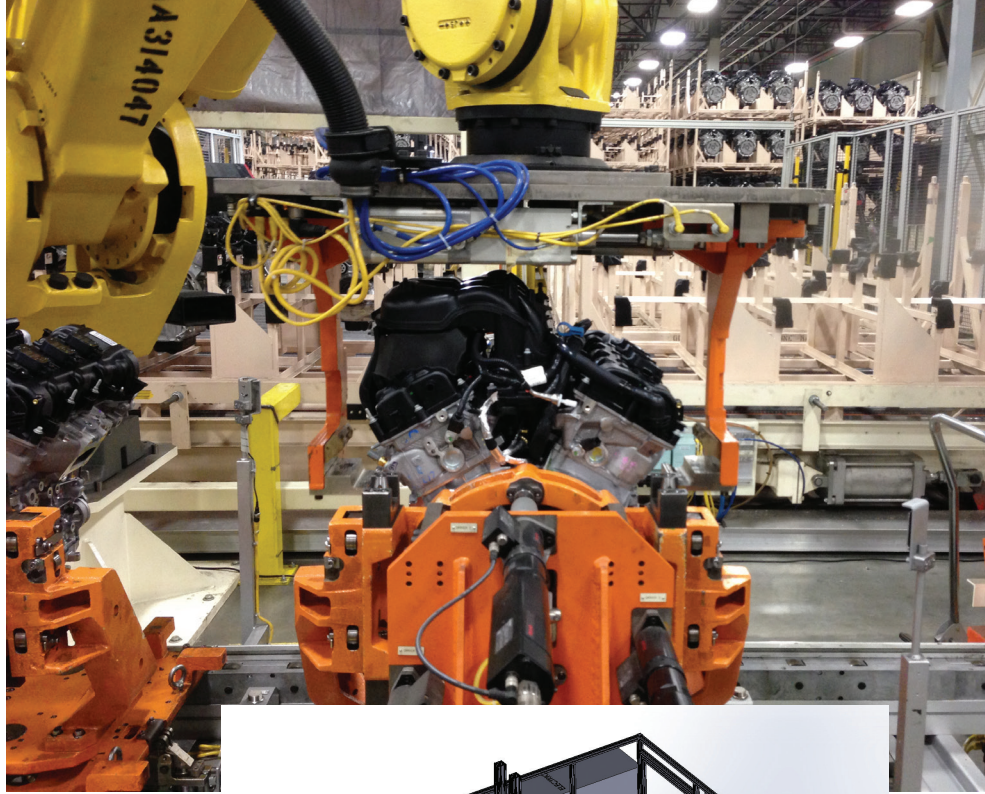
### Circumstances force improvement and innovation

The most significant turning point in recent years came into play around 2020. As Levesque puts it, "The pandemic and its effects forced manufacturers to rethink not only where work happened, but how it happened. Efficiency became paramount – not by pushing people harder, but rather by giving them better tools."

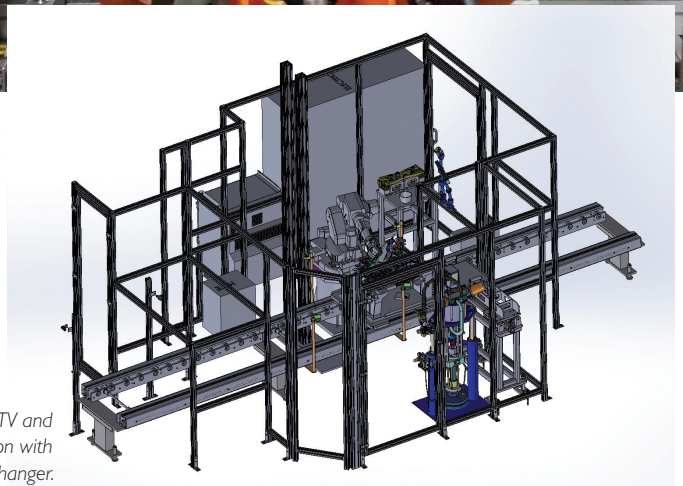
As a result, skill sets shifted, remote-capable roles expanded, and training became more critical as companies asked



Brush and gauge crank bore; a stand-alone station gantry loaded. Photos courtesy of Adesco Engineering.



A robotic engine packout.



A robotic RTV and assembly station with auto tool changer.

workers to operate, maintain, and improve increasingly sophisticated systems.

That shift in production collided with another rising reality: a growing skills gap. Levesque describes a workforce with strong entrants straight out of school and a wave of experienced people heading into retirement – but few in between those two demographics. “The challenge isn’t talent,” he says, “but experience. Designing a part is one thing; machining it, assembling it, and servicing it over time is quite another.” Bridging that gap requires investment and hands-on learning.

Automation itself has become part of the solution. Recent projects illustrate how far it has come. In one example, Adesco worked on an end-of-line inspection system for engines. Instead of relying on human inspectors to visually check wiring harnesses and clips, robots equipped with wide-lens cameras performed the task. Levesque says, “The system records exactly what left the plant, measures key features, and uses a form of AI to learn what ‘correct’ looks like across countless variations.”

Human operators still play a vital role – training the system with yes/no decisions. Over time the inspection becomes faster, more consistent, and fully documented.

### People: Still at the heart

Importantly, this isn’t about eliminating people. “Automation is about

redeployment,” Levesque explains.

“Robots take over repetitive, unpleasant, or physically demanding tasks. People move into roles that require judgment, problem-solving, and oversight.” Semi-automatic stations remain common, as do lift assists that make heavy or awkward tasks safer.

Quality is the unifying theme. Modern engines, for example, carry a digital history that is all recorded. That level of traceability was unthinkable decades ago, yet it’s now standard. Levesque notes, “The result is not just efficiency, but reliability – one reason broken-down cars are far less common on highways than they were years ago.”

### Onward and upward: No staying where you’re at

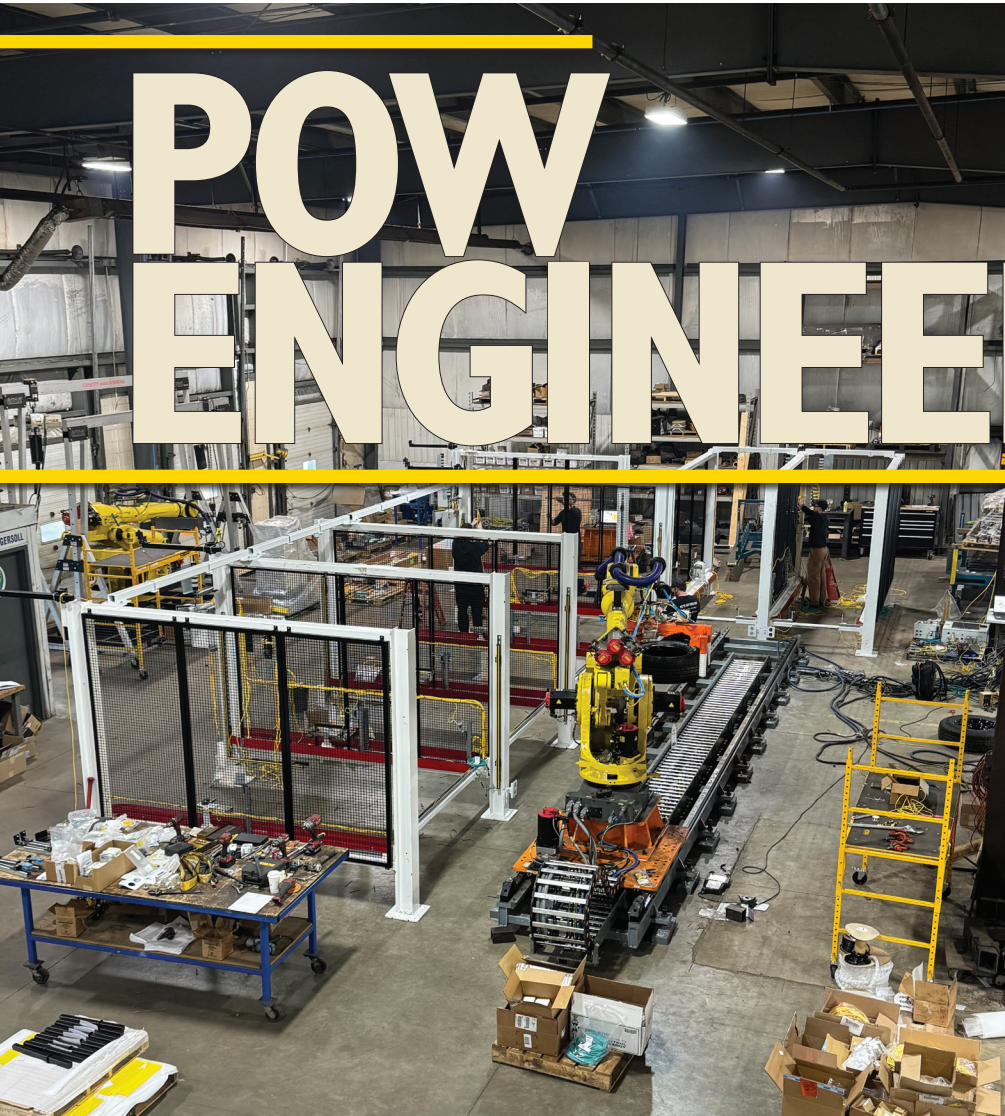
If there is one constant across all these changes, it is that there are no true plateaus. “Relaxed is not a good place to be,” Levesque says. “Continuous

improvement comes from seeing other plants, attending automation and tooling shows, and borrowing ideas across industries.” Technologies proven in one sector often find significant applications in another, once someone is willing to challenge established processes and push them through approval chains.

Looking ahead, global pressures – from tariffs to supply chain volatility – add complexity, but not paralysis. Material costs fluctuate, sourcing spans North America, Europe, and Asia, and some sectors slow while others accelerate. The response, once again, is flexibility.

Automation has never been a single leap. It is a steady accumulation of smarter tools, better processes, and hard-earned experience. From transfer bars to AI-enabled inspection, the story is less about replacing people and more about continuously redefining what people – and machines – do best. 🍁

# POW ENGINEERING



Robotic Material handler on a 7th axis linear rail to pick and sequence tires on delivery carts.



Automated pick and install system for panoramic and moon roofs. Photos courtesy of POW Engineering.

## Strength Through Innovation, Integration, and Resilience

By Rich Cowan, Staff Writer

In 1966, POW Engineering was a small welding, engineering, and retainer firm serving local mobile equipment companies in Southwestern Ontario. Sixty years later, the company has grown into a large engineering firm – combining structural, mechanical, and automation expertise under its banner, offering a wide range of solutions to industries throughout North America.

A key part of POW's evolution has been its commitment to a first-principles approach – looking at each project from the ground up by focusing on the fundamental challenges, loads, material behaviour, safety requirements, and real-world operating conditions. This method has helped the team at POW address challenges that don't always fit standard solutions.

From heavy civil infrastructure to advanced manufacturing, POW Engineering has created a niche for itself that few companies its size can offer – designing, building, and integrating purpose-built equipment and structures for

environments where reliability, safety, and performance are paramount.

### **From structural beginnings to multidisciplinary expertise**

"Originally, we were more in the structural and welding engineering world," recalls Marie Neeb, Controls Engineering Manager. "We slowly evolved from weld inspection to field testing, finite element analysis and fatigue modelling work. Historically, we were brought in to review other people's designs and explain why they failed, how long until they fail, or what needed to change to prevent early breakdowns."

That analytical expertise led to a redefinition of the company's trajectory: Why just analyze other people's designs when we can build this equipment ourselves?

By the 2000s, POW was excelling in the design and fabrication of mechanical and structural projects, building the bones necessary for automation equipment, and eventually taking on the automation portion itself. The company's approach, which was focused on engineering – rooted in both problem-solving and field experience – became its trademark.

"In 2021, we brought controls in-house," says Neeb. "That allowed us to offer the entire umbrella: from the building to the structural steel that supports the machinery, right down to the automated systems themselves. It's truly a one-stop shop."

Today, POW's capabilities include civil and structural engineering, welding and fabrication, mechanical and automation design, controls integration, and field integration. The company's ability to deliver every element on its own sets it apart from many of the traditional automation providers.

### **A history of learning and reinvention**

Quinn Pow, the company's Business Development Manager, represents the next generation of leadership and is helping guide the company into the future. For him, POW's successes have always stemmed from a willingness to adapt and innovate.

"We specialize in dynamically loaded structures and purpose-built equipment – anything heavy that takes a beating,"

he says. "We naturally found our way into automotive in the 1990s, providing a combination of field testing, fatigue modelling, and remediation. This led to providing custom equipment and structural systems. Over the years, we just kept adding capabilities – mechanical, structural, electrical, controls – until we could do it all in-house."

This adaptability continues to serve the company well in a time of rapidly advancing technological change. As automation progress continues, and industries embrace digital evolution, POW's broad expertise provides both flexibility and stability.

According to Neeb, the industry has seen waves of technological acceleration roughly every five to seven years since the 1990s. "You have to keep up, or you become the phone book," she says with a smile. "We make sure we're always following trends and reinventing ourselves where we need to."

### **Automation and AI: evolution, not replacement**

While many companies are racing to integrate artificial intelligence (AI) into their processes, POW's approach remains grounded and practical.

"We've been doing predictive analysis for decades," Neeb explains. "Finite element analysis (FEA) isn't AI in the modern sense, but it is a long-standing form of computational prediction. It uses physics-based models and data to evaluate how designs will behave under real-world loads and conditions."

POW's systems are rarely repetitive or mass-produced. Each is engineered uniquely, tailored to specific production environments, constraints, and safety requirements. "AI excels at pattern recognition and repetitive, data-rich tasks," Neeb adds, "but it is far less effective when there is no historical dataset or when creative engineering judgment is required. That's where our human experience still leads."

Pow agrees. "Our biggest advantage is our history," he says. "We've been testing, simulating, and modeling dynamically loaded equipment for decades. That accumulated practical knowledge – how materials and mechanisms behave in real industrial

environments – is something current AI tools can't replicate."

He adds, "AI will continue to evolve, and we're already seeing meaningful applications in areas like machine learning and vision systems. For highly customized, safety-critical equipment design, AI today is a complement, not a replacement."

### **The power of collaboration**

Although impressive, what sets POW apart isn't just its technical ability – it's largely the collaborative culture that unites a variety of disciplines toward a shared goal.

"We're most proud of how our teams work together," says Pow. "Every project brings people together from a variety of disciplines – mechanical, structural, controls, welding, analysis – and everyone contributes their expertise. That cross-pollination is what makes our solutions so effective."

Pow describes a recent project that illustrates that point perfectly: designing a custom automation system for installing moonroof panels in vehicles. "It involved robotic arms, mechanical assemblies, and structural reinforcements all working together," he explains. "We had to consider everything – fatigue points, weldments, structural vibration. It's those complex, one-of-a-kind challenges that we really get excited about."

### **Resilience in an ever-changing market**

As the global economy continues to shift, POW remains focused on resilience and diversification. The company serves clients across several unique industries – from automotive and manufacturing to heavy infrastructure and defense.

That diversity has proven to be valuable during times of uncertainty. "Like many in manufacturing, we're seeing some hesitation in the market right now," says Neeb. "People are being cautious about major investments, and there's added administrative burden from tariffs and trade regulations. But we're used to navigating cycles. Every time the market tightens, we adapt – and often come out stronger."

Pow agrees, adding, "In past economic uncertainties, the adjustments we made ended up becoming our biggest strengths. It's about keeping your eyes open and being ready to pivot."



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**Looking ahead to 2026 – and beyond**

With its 60th anniversary just around the corner, POW Engineering isn't planning a big celebration, as its longevity speaks for itself. "We're just happy to still be doing great work," says Pow. "Maybe we'll save the party for the 75th."

In the meantime, the company continues to focus on delivering innovative, multidisciplinary solutions and exploring new markets. Its recent membership in Automate Canada marks another step toward collaboration and shared learning within the automation community.

"We've seen Automate Canada at events for a while," says Neeb. "Joining is about connection and collaboration – meeting others in the industry, learning from them, and finding ways to grow together."

Pow agrees, saying, "Working together with others in the same industry is better than working in a silo. We believe in building long-term relationships – with our partners and our customers."

**Engineering for the long haul**

POW Engineering's history is a story of evolution – of a company that traces its beginning to fixing what others had built and ended up building their own future themselves.

Its team's expertise, adaptability, and dedication to collaboration have enabled the company to remain ahead of six decades of industrial growth and transformation. POW's work has embodied that which it has always stood for: engineering that endures. There is no reason to think that that legacy won't continue through the next six decades and beyond. 🍁

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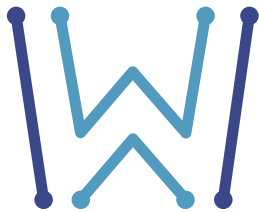
# CON-SYST-INT:



Joe Zaleski, Senior Project Manager,  
Con-Syst-Int.

## Three Decades of Resilience, Process, and Adaptation

By Rich Cowan, Staff Writer



When a company not only survives, but evolves and grows through multiple industry shifts, economic crashes, technological revolutions, and global pandemics, longevity alone becomes a story worth telling. But for Con-Syst-Int (Controls Systems International) adaptability, not

longevity is the main story.

Founded in 1990, the company has built a solid reputation in Southwestern Ontario and beyond as a dependable automation and controls engineering partner – one defined by a strong focus on preparation, a deep understanding of processes, and an ability to work successfully in complex, high-risk environments. The reach of the company is truly broad. As Gary Masse, Senior Project Manager puts it, “Our designs and end users are scattered all across the globe and not just southern Ontario”

Since its inception, Con-Syst-Int has been an example of how engineering firms can remain relevant by diversifying their capabilities, investing in people, and embracing new tools without losing sight of the fundamentals.

### Built on collaboration

From the beginning, Con-Syst-Int’s origins were collaborative by design. When Senior Project Manager, Joe Zaleski joined the company in 1990 as its fifth employee as well as a shareholder, the firm already reflected a balance of complementary technical strengths. Early team members brought backgrounds in fluids engineering, computer-aided design (CAD), and machine tool systems, while Zaleski added welding expertise.

“That mix gave us a strong base right from the beginning,” Zaleski recalls. “We had machine tools covered, welding covered, and we kept learning from each other as we went.”

In the early 1990s, machine tool work dominated much of the business, with welding services following shortly after. Even then, Con-Syst-Int’s culture leaned toward collective problem-solving rather than rigid specialization. Engineers learned through exposure to unfamiliar systems, and built knowledge through hands-on experience, which would later prove to be significant for the company’s success.

### Evolution into automation and controls

As manufacturing technologies evolved, so did Con-Syst-Int. Over time, the company expanded its expertise to include electrical system design, automation controls, and process control engineering. This allowed them to cross over into multiple industries.

Today, Con-Syst-Int supports a wide range of applications – from local manufacturing plants to specialized equipment builders in the United States. Projects have included everything from fluid-fill systems and conveyor integration to foam-cutting equipment, odour abatement systems, and battery-related testing and feeder systems.

What connects these diverse projects is not the equipment itself, but the engineering philosophy behind them.

“At the end of the day, controls are controls,” says Zaleski. “The biggest challenge is understanding the process. Once you understand how the process works, you can engineer the solution.”

That emphasis on process understanding has allowed Con-Syst-Int to adjust repeatedly as industries change and reinvent themselves.

## Navigating industry disruption

Few timeframes tested Con-Syst-Int more than the late 2000s. Before the 2008 financial crisis, machine tool work represented a significant portion of the business. When the crash hit, the effects were immediate.

"We were in survival mode," Zaleski recalls. "Machine tools declined, customers disappeared, and we had to diversify quickly."

Diversification came in many forms: smaller projects, new industries, and unfamiliar systems that required steep learning curves. One such example was odour abatement systems involving air treatment, water processing, and environmental compliance.

"We had never done one before," Zaleski states. "But from a controls standpoint, it was about learning the process. That's what we do."

Those years taught the company a valuable lesson that continues to shape Con-Syst-Int's strategy: a single market cannot carry a company's success indefinitely, and resilience depends on a willingness to adapt.

## Process first, then execution

If there is one area that has proven to be invaluable to the success of Con-Syst-Int, it is in its preparation. A recent high-risk local installation illustrates the importance of this. Tasked with replacing equipment inside an operating facility under an extremely tight window, Con-Syst-Int was given approximately two weeks to complete the job. The system was installed and running in only eight days.

That success was not the result of shortcuts.

"We did our homework," Zaleski explains. "We investigated what we were working with, documented everything, took detailed photos, and made sure the replacement would function exactly as required."

This type of disciplined approach requires assessment, consultation, design, implementation, and system diagnosis, all of which are consistently employed in Con-Syst-Int's formal processes. As Todd Kuzniak, Senior Project Manager at affiliate



Joe Zaleski working with Ajith 'Aj' Rengaraj, who is one of Con-Sys-Tint's senior controls engineers. Photos courtesy of Con-Sys-Tint.



An example of control panels designed, built, programmed, and commissioned, in the MTE / Con-Syst-Int shop.

MTE Controls notes, "It often follows the 80-20 rule: 80% of the effort happens before boots ever hit the ground.

That's why execution looks easy." He emphasizes, "Because the work has already been done."

**Tools that support, not replace, expertise**

In recent years, Con-SystInt has expanded its use of advanced engineering tools, including EPLAN for electrical design and AI-assisted research and problem-solving.

EPLAN adoption grew largely through customer requirements and an understanding of global standards, particularly during work connected to the automotive sector. Today, it provides greater consistency, efficiency, and compatibility across projects.

AI, meanwhile, is viewed not as a threat but as an increasingly important tool.

"We use it as a tool," says Zaleski. "It helps us find solutions faster, research products, and work through problems more efficiently. But it doesn't replace engineering judgment."

**People, mentorship, and the talent challenge**

Like much of the industrial sector, Con-SystInt faces ongoing challenges related to skilled labour shortages. Recruiting, mentoring, and retaining talent has proven to be difficult, particularly in jobs that require significant travel or on-site deployment.

"We can train people," Zaleski says. "But keeping them is the challenge."

Historically, Con-SystInt maintained a relatively large team, at times employing

as many as 70 staff. While that scale has changed, the company continues to emphasize mentorship, pairing less-experienced team members with more experienced engineers and carefully matching people to projects based on skill levels and interest.

"Having the right person on the right job is everything," Zaleski emphasizes.

**Community, collaboration, and looking forward**

Con-SystInt joined Automate Canada in 2025, viewing membership as an opportunity for exposure, learning, and collaboration. Through events such as the Emerging Technologies in Automation & Mobility Transformation Conference and Trade Show, held in Windsor every year, leadership has reconnected with peers, competitors, mentors, and partners, often sharing insights and advice on tariffs, supply chains, and industry direction.

"In some ways, we're all in this together," Kuzniak says. "These are big issues that affect everyone."

Looking ahead, Con-SystInt sees continued opportunity in hybrid technologies, local manufacturing outlets, and advanced automation, all while remaining realistic about uncertainty, as has been learned from past challenges.

"There will always be challenges," Kuzniak points out. "But there are always positive things happening too."

After 35 years, that mindset may be Con-SystInt's greatest legacy, having proven to be a company that has learned not just to survive disruption and challenge, but to successfully find its way through it – one process at a time. 🍁

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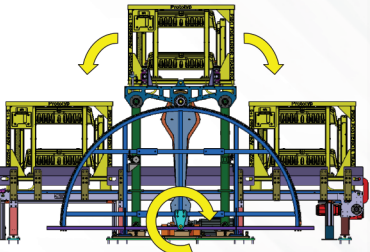
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