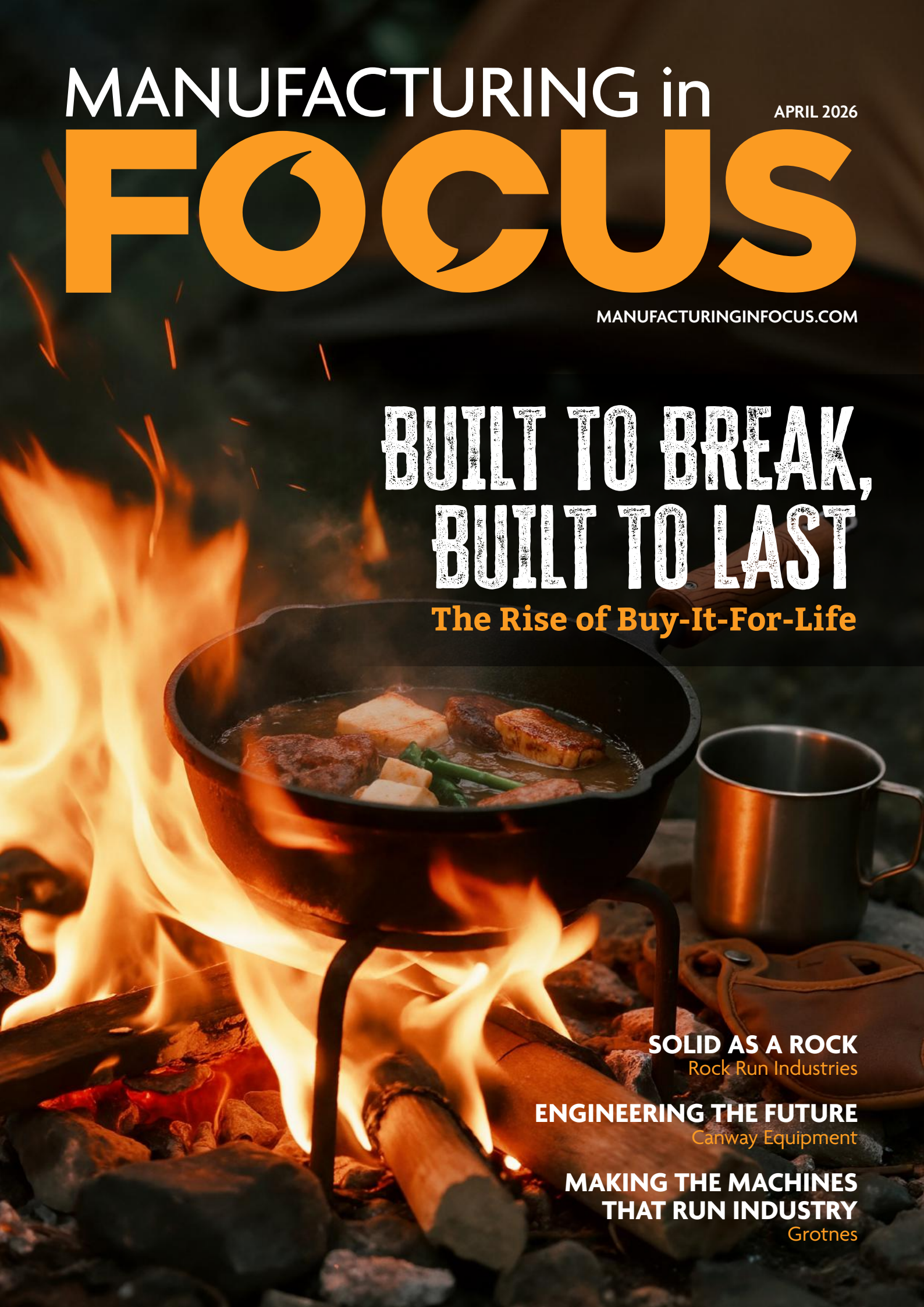
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BUILT TO BREAK, BUILT TO LAST

The Rise of Buy-It-For-Life



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The manufacturing sector strives to create things that work, and work well. An engineer, a craftsman, or a builder takes great pride in making something that lasts and remains reliable and relevant. Yet for nearly a century, a quiet counter-philosophy has run alongside that tradition: the deliberate shortening of a product's useful life to keep the sales cycle turning.

Planned obsolescence is not a new concept, but its costs are now impossible to ignore. As an engineer, I personally found this very frustrating, as managers would so often choose the cheaper option to increase margin instead of the better option that might forge a legacy.

What is encouraging is that the marketplace is pushing back. The 'Buy It For Life' movement represents something that should resonate with anyone in this industry: a return to the values that good manufacturing was built upon. Quality materials, sound engineering, and products that stand behind their promises. When consumers seek out goods that last decades rather than a few years, they are rewarding the kind of craftsmanship our sector does best and creating an opportunity for manufacturers who are willing to compete on longevity rather than novelty.

For a deeper look at the origins of planned obsolescence and the growing consumer movement challenging it, check out this issue's ***Built to Break, Built to Last: The Rise of Buy-It-For-Life*** by Nate Hendley.



Tim Hocken
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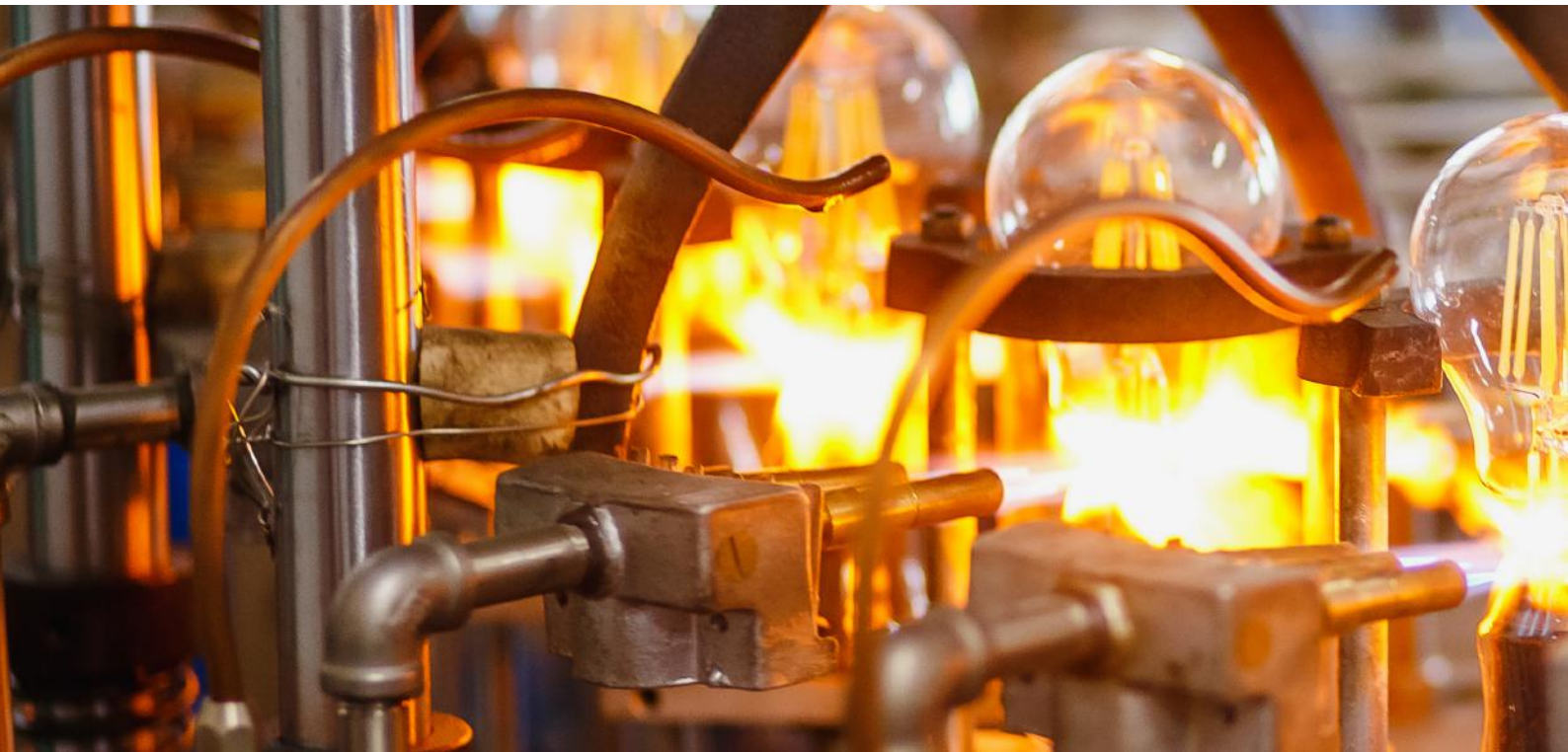
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BUILT TO BREAK, BUILT TO LAST

The Rise of Buy-It-For-Life



The concept of planned obsolescence—products specifically designed to have a limited lifespan—stems in part from two events that took place in the 1920s.The first event occurred just before Christmas in 1924, when representatives of light bulb manufacturers met in Geneva, Switzerland. This international group formed something called the Phoebus cartel to control the global light bulb market. Among other issues, the cartel was concerned about the longevity of their products; at the time, household light bulbs lasted an average of 1,500 to 2,000 hours before they needed to be replaced.

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U.S. LOST 12,000 MANUFACTURING JOBS IN FEBRUARY

In February, the U.S. manufacturing industry lost 12,000 jobs, with the plastics and rubber product and transportation equipment sectors leading the way with 4,200 and 4,000 losses, respectively, according to the Bureau of Labor Statistics findings. Further, Federal Reserve Economic Data shows the job losses were significantly higher than the same period last year, which showed a loss of only 2,000 jobs comparatively. This also all but eliminates the positive momentum from the 5,000 jobs gained in January.



"This February jobs report was far weaker than I had hoped, particularly after a slight bump up for manufacturing in January," Scott Paul, Alliance for American Manufacturing's President, said in a statement. "There are many factors swirling around—[artificial intelligence], bad weather, tariff volatility, and much more. With a potential energy shock on the horizon, there may be even worse news to come."

On top of the losses in the plastics and rubber products and transportation equipment sectors, wood products lost 2,400 jobs, followed by 2,100 losses in the beverage, tobacco, leather, and allied products sector, and 1,000 jobs in textiles, primary metals, and food sectors. There were some gains, however, with the fabricated metal sector adding 2,100 employees; and the chemical, machinery and electrical equipment and appliance and component sectors adding around 1,000.

The losses represent a 15.6 percent increase to manufacturing unemployment levels with a total of 527,000 workers, compared to 456,000 year over year. With additional tariff and war uncertainty, employment levels too could remain uncertain. S&P Global U.S. manufacturing PMI report indicated that U.S. manufacturers were restraining hiring.

THE RACE TO SPACE 2.0

Those who have lived through the Cold War (a war that was cold on the western front but remained active through proxy wars in the east) are acutely aware that unfolding geopolitical events are reminiscent of an earlier time, where space was the next frontier. Canada is among the countries investing heavily in the launch of hundreds of new satellites that will support communication and are what Prime Minister Mark Carney referred to as "fundamental" to the country's sovereign defence capabilities and autonomy.

Canada intends on competing with companies like Starlink when it comes to a made-in-Canada low earth orbit (LEO) satellite network that will launch by next year to expand internet services across the nation, supporting improved access for Canadians as well as military operations and natural disaster response.

In December, a new strategic partnership was signed between the federal government and Canadian firms Telesat and MDA Space to develop military satellite communications for the Canadian Armed Forces in the Arctic, the Enhanced Satellite Communications Project—Polar (ESCP-P) project, a $5 billion project that is expected to come online in 2037 as part of Canada's multi-billion-dollar NORAD modernization project.

One project, Telesat Lightspeed, will be composed of nearly 200 LEO satellites, which was made possible by a $2.14 billion federal loan in 2024 that aided the expansion of internet and 5G connectivity across Canada, particularly in underserved areas like remote and Indigenous communities.

The LEO satellites operate at a 1,300-kilometre altitude, above operators like Starlink, which dominates the 600-kilometre altitude. By operating higher, Telesat avoids any "traffic jams" in the sky.

The project has brought together what the Prime Minister called "like-minded partners who possess similar capabilities to build out a deep and resilient system we can all share and control in our territories," removing reliance on companies like Starlink to fill the gaps in service.



WOMEN STILL FACE DISCRIMINATION IN MANUFACTURING

International Women's Day is an opportunity to celebrate all things women, including their many contributions and accomplishments, but it is also an opportunity to understand what women are up against, particularly in male-dominated sectors like manufacturing.

According to a survey of 101 senior figures across the UK commissioned by MyWorkwear, 63 percent, or nearly two-thirds of female manufacturing leaders, face discrimination, with women still worried about their personal security and harassment. Further, 35 percent of respondents identified specific areas where their safety felt compromised in the workplace including physical safety, personal security when working alone, and challenges associated with ill-fitting personal protective equipment (PPE), as well as limited protections against bullying and harassment.



Alternately, 72 percent of women felt that both sexes now receive equal pay, though Gayle Parker, Commercial Director at MyWorkwear, noted, "Workplace equality isn't just about pay. It's about safety, inclusion and ensuring women feel safe when they go, attend and come back from work. The results are clearly telling us that this is not the case, and industry needs to take action to turn this worrying trend around.

"We want to encourage the next generation of female engineers and leaders to believe they can achieve anything, and this must start with ensuring the workplace is safe, inclusive and that staff are fitted out with the right clothing. It's the basic things that can make such a huge productivity difference.

"Ill-fitting PPE and workwear might seem minor, but it sends a wider message about whether women are fully considered in workplace planning," explained Parker. "As a workwear provider, we are engaged in regular conversations with thousands of manufacturing firms about the need for a wide range of women's workwear options. Our data shows that nearly three quarters of women (72 percent) have been expected to wear men's fit or unisex fit items in the workplace at some point in their career."

The report did show that companies were trying to do their part to overcome these challenges, with 87 percent of respondents now offered women's fit clothing as standard and 78 percent commenting on how wide the range is.

For further information or to access the full survey, please visit: www.myworkwear.co.uk/the-myworkwear-workplace-equality-report.

NEXTSTAR ENERGY'S WINDSOR BATTERY FACILITY CELEBRATES OPENING

Ontario and Canada are celebrating the grand opening of NextStar Energy Inc.'s battery facility in Windsor, Ontario, which is being recognized as the country's first commercial-scale battery facility. The 4.23-million-square-foot facility will create up to 2,500 direct jobs and will support the strength of the province's manufacturing sector, more specifically advanced technologies related to the growing electric vehicle (EV) sector, AI data centres, and high-energy infrastructure projects.

"The opening of the NextStar Energy battery facility is a milestone for southwestern Ontario, creating thousands of local jobs and benefiting workers across our province's automotive and advanced manufacturing supply chains," said Premier Doug Ford. "NextStar's commitment to Ontario workers reflects the hard work our government has done to cut taxes and red tape, attract historic levels of investment and build the most competitive, resilient, self-reliant economy in the G7."

Production began in November 2025, and the company has already produced more than one million battery cells. There are currently 1,300 highly skilled workers employed, with 1,200 more expected once the facility is running at full capacity.

"By leveraging LG Energy Solution's technological expertise alongside Windsor's manufacturing might, NextStar Energy has solidified its position as a cornerstone in North America's battery ecosystem," said Vic Fedeli, Minister of Economic Development, Job Creation and Trade. "We congratulate NextStar Energy on achieving these initial milestones and look forward to seeing their batteries unlock new economic opportunities for Ontario's leading industries."

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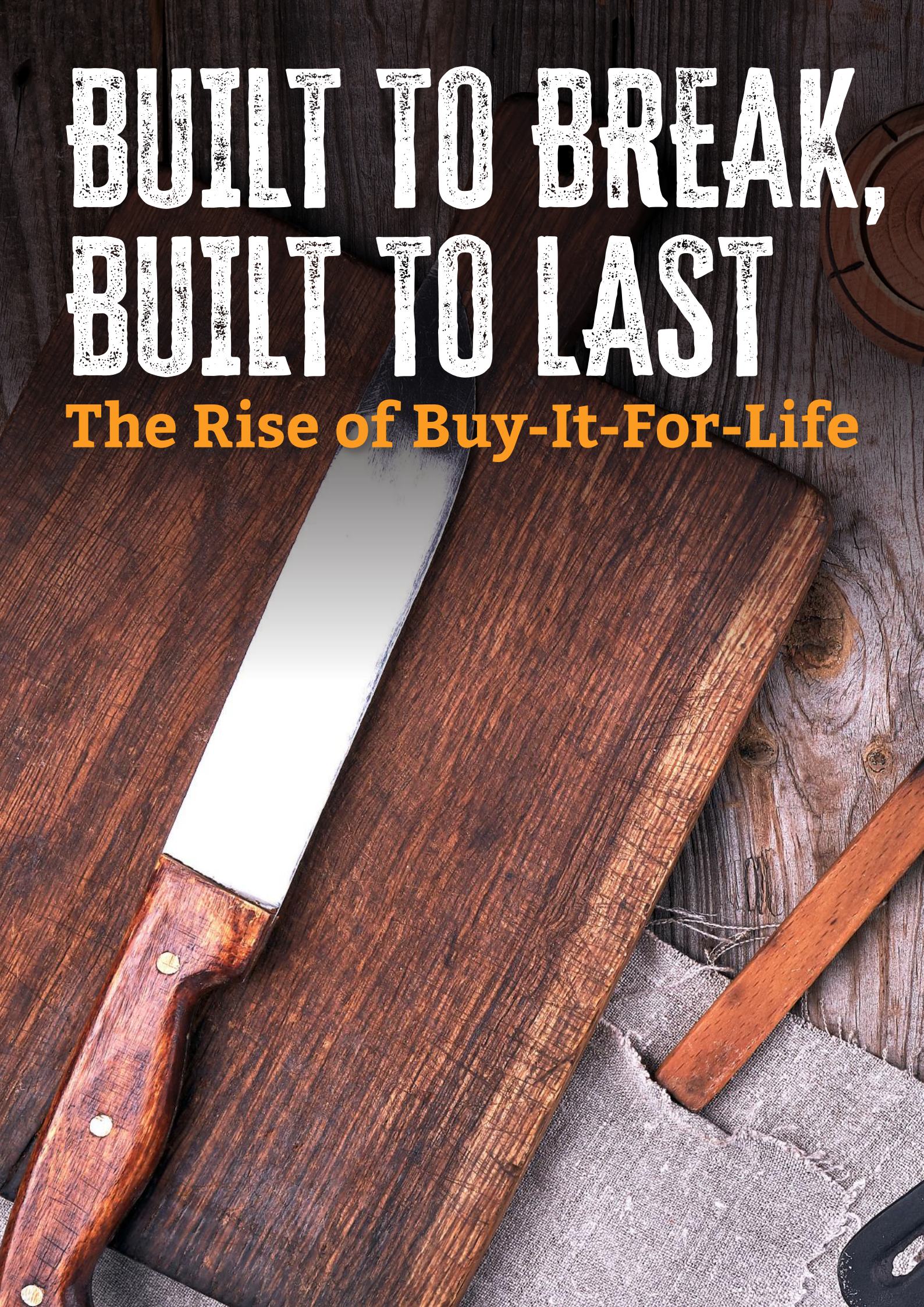
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BUILT TO BREAK, BUILT TO LAST

The Rise of Buy-It-For-Life





Written by Nate Hendley

The concept of planned obsolescence—products specifically designed to have a limited lifespan—stems in part from two events that took place in the 1920s.

The first event occurred just before Christmas in 1924, when representatives of light bulb manufacturers met in Geneva, Switzerland. This international group formed something called the Phoebus cartel to control the global light bulb market. Among other issues, the cartel was concerned about the longevity of their products; at the time, household light bulbs lasted an average of 1,500 to 2,000 hours before they needed to be replaced.

This lengthy lifespan benefited consumers but was a drag on new sales. So, the cartel devised a scheme to develop shorter-lasting bulbs, then poured money into R&D to make this goal a reality. By altering the filament and other technical interventions, the lifespan of household light bulbs was reduced to about 1,000 hours. The Phoebus cartel eventually fell apart, but its signature achievement remained a crucial step in the move toward planned obsolescence.

Planned obsolescence received another boost in the later years of the 1920s as a way to address a crisis in the American automotive industry. While the car had proven to be an overwhelming success, vehicle manufacturers were worried about market oversaturation. Many drivers were content to stick with one car for years on end before buying another.

To goose sales, Alfred Sloan, CEO of General Motors, came up with an ingenious idea. Instead of launching a brand-new car each year—a move that would have been prohibitively expensive—GM introduced the notion of an "annual model change." Automotive manufacturers would tweak their lineup each year, adding new colours, enhancements, and other features to existing vehicles. Many of these modifications were minor, but it didn't matter; the objective was to make old models seem hopelessly passé. The plan worked, and buying the latest model each year, even if your current car worked fine, became seen as a marker of wealth.

These examples highlight the different types of planned obsolescence. There is manufactured obsolescence (products are deliberately produced using materials with a limited lifespan), systemic or technical obsolescence (upgrades are introduced that render older products useless), and stylistic obsolescence (consumers are told they will be uncool and out of touch if they don't buy the latest and greatest version of an already available product).

If the light bulb conspiracy exemplified manufactured obsolescence, systemic obsolescence is commonplace in the consumer electronics industry. Think of software updates that aren't compatible with older computers and laptops, or electronics with parts that can't be replaced. Stylistic obsolescence is rampant in the smartphone industry, where small changes are irresistible to tech enthusiasts who want to stay ahead of the curve.

"The profligacy inherent in planned obsolescence has produced a large backlash, as evidenced by the rise of the 'right to repair' movement."

Planned obsolescence keeps consumers buying, which in turn is good for the economy. On the downside, the need to constantly buy new goods results in mountains of cast-off electronics, clothes, household items, cars, and other consumer wares.

Other issues abound. Manufacturing frequently involves the use of what are called "conflict minerals," minerals commonly found in regions wracked by war, poverty, and abusive governments. Some of the gold, tin, and tungsten used in electronics and other goods is mined in the Democratic Republic of Congo, which has been embroiled in extremely violent civil warfare for decades.





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The constant churn of new consumer purchases also prolongs economic abuses in developing nations. Many electronic products and other products subject to planned obsolescence are produced in low-cost overseas nations. As long as demand for brand-new items remains strong, miserable working conditions will prevail in such locales.

The profligacy inherent in planned obsolescence has produced a large backlash, as evidenced by the rise of the "right to repair" movement. Consumers are demanding information on how to fix electronics and other manufactured goods, and leaning into a trend called "BIFL."

"BIFL stands for Buy It For Life, and the acronym encompasses both an approach to shopping as well as a description of products that are designed and manufactured to last a lifetime. Buy It For Life items can last the life of the owner or the accepted life of the product, or they might come with an ironclad warranty such that you won't have to purchase the item ever again," explains Roxanne Dawson in a February, 2024 article in ***Forbes*** magazine.

The BIFL movement is being spurred by consumer self-interest and concern for both the environment and global economic disparity. Purchasing long-lasting products is a good way to limit the amount of consumer goods in landfill, the need for conflict minerals, and exploitative, low-cost, offshore manufacturing practices.

While Buy It For Life has become a new buzz phrase, the movement has very old roots. Prior to the Industrial Revolution, pretty much all consumer goods were BIFL. Peasants who bought shoes from a cobbler could be expected to keep them for years, mending them when necessary. Even if they paid for repairs, keeping footwear for long periods was more affordable than tossing out old shoes and buying new ones constantly.

There are two major drawbacks to Buy It For Life wares: they are generally more expensive than conventional consumer goods and harder to find. If you do a comparative analysis, however, buying a single pricey item might be less expensive over the long run than having to purchase the same item multiple times at a lower price.







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As for availability, major media outlets such as ***Forbes***, ***Wired*** magazine, and the ***New York Times*** have all compiled lists of recommended BIFL products and the companies that make them.

The ***Forbes*** list includes Merino wool socks from a firm called Darn Tough, which are ideal for hikers but can be used by anyone fed up with constantly buying replacement socks due to rips, tears, and holes.

"Introduced in the 1930s, Zippo lighters became hugely popular due to their reliability. They can also last for decades if users are willing to replace the wicks and flints."

In terms of kitchenware, ***Forbes*** recommends the Field Company No. 8 Cast Iron Skillet, a pan that the makers claim will last for decades, and the Le Creuset Dutch oven. The latter features enamel coating and requires some care, as it needs to be washed by hand and you're not supposed to use metal utensils with it. On the plus side, it offers longevity and reliability.

The list from *Wired*, published in February 2025, includes the Shun Cutlery Sora 8-Inch Chef's Knife (the contributor who posted this product sharpens it twice a year), the HMPLL Whetstone Kit (a set of whetstones to keep kitchen knives in peak cutting condition), and a Sonder Los Angeles Walnut End-Grain Cutting Board for slicing, which is less likely to warp than other versions.

Wired also recommends the Dualit Classic 2 or 4-Slice NewGen Toaster (originally designed for commercial kitchens, these hand-assembled toasters are extremely reliable and hardy) and the Weber Original Kettle 18-Inch Charcoal Grill, a simple design with tub, ash catcher, metal legs, and plastic wheels that lasts for ages if kept covered or stored in a garage when not in use.

Birkenstocks are also featured on the ***Wired*** list. While these slip-on sandals are frequently mocked as hippie footwear, Birkenstocks are actually very durable if kept in good condition with water and stain repellent, cleaning solution, and similar care.

Interestingly, ***Wired*** also includes a few old-timey items, such as the Lamy 2000 Extra-Fine fountain pen—if you don't mind replacing the ink, a fountain pen can last for decades, unlike disposables—and Zippo lighters. Introduced in the 1930s, Zippos became hugely popular due to their reliability. They can also last for decades if users are willing to replace the wicks and flints.

The *New York Times* list, published in September 2025, covers a wide swath of consumer goods, including men's jeans. It offers two BIFL jean brands: A.P.C. New Standard dungarees, which are pure cotton and "fashionable but not trendy," and 3sixteen CT-100x denims. The latter are made with heavyweight denim that is tough to break in but very long-lasting.

And people with home gyms might want to investigate the Rep Fitness Kettlebell, a simple set of colour-coded weights with wide handles and a lifetime warranty for U.S. and Canadian customers.

Beyond these goods, some items have always been made with BIFL in mind. High-end musical instruments, for example, can be used for decades or even centuries. Among guitarists, playing a 1959 Stratocaster or 1965 Gibson SG in excellent condition is a point of pride. The movie The Red Violin centers on a priceless instrument passed between different owners over three centuries. The violin's age is not considered a detriment but rather an attraction.

Of course, not everything lends itself to BIFL. While buying the latest car model each year just to stay trendy might be excessive, only an expert mechanic, or someone who lives near a repair shop, would likely feel comfortable driving a 1944 Buick Roadmaster on their daily commute.

"Some categories lend themselves well to lifetime purchases: homewares, outdoor gear, and heirloom clothing came up in my research," writes Dawson. "Other categories, like beauty products, technology, and trendy fashion, encompass



products that you will likely need to replace over time for safety, utility, and comfort. As a general rule, regardless of product type or category, following the manufacturer's care instructions will help prolong the life of the items you buy."

Planned obsolescence was never an accident; it was a strategy, engineered in boardrooms and refined over decades to keep consumers spending. But awareness is a powerful counterforce. As the BIFL movement gains momentum, shoppers are increasingly voting with their wallets, choosing quality over novelty and durability over disposability. In the end, buying less but buying better may be one of the simplest and most consequential choices a consumer can make. ■

Designed by Isaac McWhinnie



ALL IN TH

Written by Robert Hoshowsky

This year, April 10th marked National Siblings Day. Known as Brothers and Sisters Day in Europe, where it is typically celebrated at the end of May, Siblings Day was created over 30 years ago by Claudia Evart to honour the memory of her older siblings, brother Alan and sister Lisette, after their untimely passing in tragic accidents. Today, as Founder and Director of the non-profit Siblings Day Foundation, Evart "has dedicated herself to ensuring that the bond of brother and sister is forever acknowledged as the special gift it is," according to the Foundation.

Evart's message about recognizing, honouring, and celebrating the special bond between siblings rings especially true in the world of family-led manufacturing. Despite what we might think about many manufacturers being multinational corporations with thousands of employees, over 60 percent of Canada's



E FAMILY

THE POWER OF FAMILY-OWNED MANUFACTURING

small and medium-sized (SMEs) manufacturers are family-owned. These range from small mom-and-pop operations with a handful of workers to large operations with hundreds of staff across multiple locations. No matter the size, all have one thing in common: their invaluable contribution to the nation.

According to Family Enterprise Canada, which supports and provides a voice to this important sector, family-owned businesses are not only important but "a critical component of the Canadian economy." Family-owned businesses account for 63.1 percent of all Canadian private sector firms. Responsible for generating almost half (48.9 percent) of the country's real Gross Domestic Product (GDP), totalling $574.6 billion, family firms are also responsible for 6.9 million jobs Canada-wide—equivalent to 46.9 percent of private sector employment.









Economic backbone

In the United States, family businesses also play an essential role in the economy, accounting for 54 percent of the country's GDP. Responsible for 83.3 million jobs, family-owned companies generate 59 percent of U.S. employment.

Even when faced with economic challenges like inflation, labour shortages, and taxes, family-led businesses keep growing across the United States. In mid-2024, Family Enterprise USA's Annual Family Business Survey—the largest to date, with 789 respondents spanning 40 states—revealed that America's family businesses remain the country's greatest private employer. In fact, the survey revealed 61 percent of family businesses grew in 2023. Many of these companies are engaged in the manufacturing sector.

"Despite the many challenges facing family businesses, this year's survey shows family businesses continue to grow, add jobs, and pay more than non-family enterprises," stated Pat Soldano, President of Family Enterprise USA and the Policy and Taxation Group, in a media release. "This year's survey was our largest to date and the information in it we use to help educate our legislators on Capitol Hill so they understand the importance and size of family businesses in our economy."



Sweat, tears and missed holidays

From cogs to car parts, North America's SME manufacturers invest a great deal in their businesses. More than a nine-to-five job with weekends off and paid vacations, owners of family-run manufacturing businesses make countless sacrifices, especially in the early years. This includes everything from missing their children's school performances to working long into the night—sometimes *every* night for weeks or months—skipping family functions, and even deferring their own salaries so staff and suppliers are paid.

Even decades later, many owners say it was worth it because they created a family legacy positioned to last for generations.

Then there is the cost of the business itself. Even small manufacturing facilities need all the basics of any office, plus a suitable location and the necessary machinery. Depending on the products being made, this can include drilling and grinding machines, lathes, CNC machines, extruders, mixers, laser cutters and waterjet cutting machines, forklifts, cranes, conveyors—the list is practically endless. And to keep up with the competition, merely investing in equipment isn't enough. Many of today's manufacturers need to invest in Artificial Intelligence, expensive software like AutoCAD and SolidWorks, automated assembly machines, 3D printers, and even industrial robots to remain competitive.

Manufacturing is unlike many other sectors because of the amount of capital involved, especially in fields such as automotive, which requires massive amounts of investment in training, tools, technology, and machinery.

Changing gears

Well-structured family-run companies often have a board and governance structure that has a say in the business, including decisions about spending thousands or even millions of dollars on automation, robotics, and other expensive technology. While these investments can be instrumental to a company's long-term success, the outlay can also leave a manufacturer vulnerable to unexpected changes in the market. The same thing applies to expanding facilities. Many Canadian companies have put building bigger facilities on hold, something they wouldn't have considered before U.S. President Donald Trump signed an executive order levying tariffs on Canadian exports to the U.S. in February 2025.

In his book ***Succession for Change: Strategic transitions in family and founder-led businesses***, author Harry Korine underscores how there is an overrepresentation of large family businesses in manufacturing, retail, mining, and finance, sometimes exceeding 50 percent. "These are capital-intensive sectors, where the patient capital provided by families has played an important role in supporting long-term investment," states Korine. "Traditionally, capital intensity has also served as a barrier to entry, protecting these sectors and their firms from the threat of radical change from the outside."

Korine goes on to state that four of the world's largest eight family-controlled businesses are automobile manufacturers, namely Volkswagen, FCA, Ford, and BMW. And no matter how big or how small, family-owned manufacturers must reinvent themselves through technology, something sometimes overlooked by founders set in their ways.

"Reinvention is hard enough when attempted by the existing leadership of a family business, or the founder of a business," writes Korine. "So many questions have to be answered: does the firm have the necessary capabilities? If not, should these be bought in, or is this the time to sell out to a more capable rival? Will there be resistance to a change of strategy, and how might that resistance be overcome? Bringing succession into the picture complicates matters considerably."

Yet for all family-run businesses, there *needs* to be a successor. Sometimes the successor is not obvious. It is surprising how many manufacturers don't have a successor, let alone a succession plan, in place. In these cases, or when there is disagreement among family stakeholders, it is best to work with financial planners, tax attorneys, and other experts to ensure a smooth transition.

According to a 2023 report from the Canadian Federation of Independent Business (CFIB), the country's largest association of small and medium-sized businesses, "76 percent of business owners plan to exit their business within the next decade, a process that could involve the transfer of over $2 trillion worth of business assets." This is compounded by Canada's aging population and waves of retires in the wings. Exit strategies vary, including selling to non-relatives, selling to other families, selling to employees, transferring to existing family members (through inheritance), closing the business completely, or selling to international buyers. In all cases, there is no 'one size fits all' solution to business success.

What remains consistent, however, is the importance of thoughtful planning and open communication, particularly in family enterprises where business decisions are deeply intertwined with personal relationships. As one generation prepares to step back and another considers stepping forward, the same bonds that National Siblings Day seeks to celebrate can become a source of strength, continuity, and resilience. Ultimately, the future of family-led manufacturing will depend not only on market conditions and technological adoption, but on the ability of families to navigate change together while preserving the legacy that made their businesses possible in the first place. ■

Designed by Isaac McWhinnie




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TEAMING UP FOR SUCCESS

Since 1987

Team INDUSTRIES, INC.

Written by Allison Dempsey

When it comes to the timely delivery of high-quality shop fabricated pipe spools, tanks, and vessels, Team Industries, Inc. leads North America's fabrication industry. With fabrication facilities in Wisconsin and Texas, Team serves clients in various industries, including: data centers, semiconductor, power, petrochemical, LNG, brewery, pulp and paper, pharmaceutical, marine, chemical, and food and beverage.

Featuring more than 725,000 square feet of indoor fabrication space and the newest fabrication tools and technologies at each Team location, the company ensures every project crafted by its skilled workforce meets the highest quality standards.

A history of growth

Team Industries, Inc.'s story began in 1987 when a group of employees, facing the bankruptcy of their employer, made the bold decision to purchase the company's assets themselves.

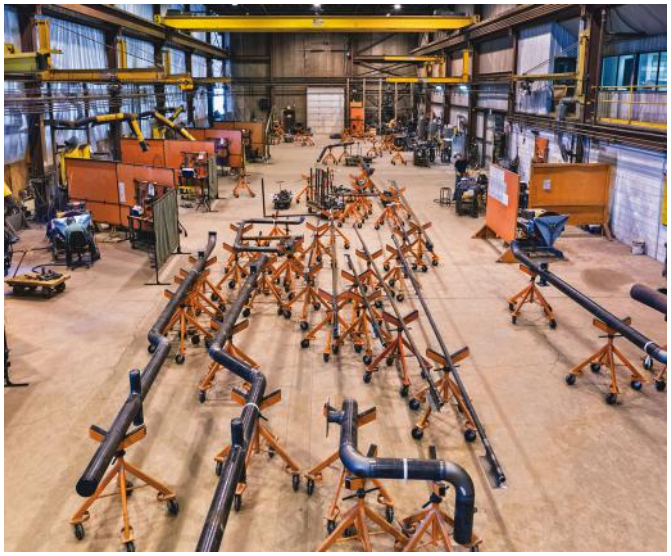
"To save their jobs, that handful of individuals got together and they put their necks on the line," shares Jon Viestenz, Director of Sales. "They pulled together a financial plan to buy the assets, and hence the name Team Industries, Inc."

Through the late 1980s and onward, Team Industries expanded its Wisconsin footprint, adding fabrication bays, paint and blast facilities, loading areas, climate-controlled material warehousing, and additional office buildings. Strategic acquisitions followed, including opening a facility in Port Arthur, Texas. Each move was made to serve the company's industries more effectively.

Most recently, in 2025, Team Industries expanded into the advanced technology and manufacturing industry by converting a 7,000-square-foot building into a dedicated ultra-high-purity fabrication facility, with the installation of an ISO 4 and ISO 7 certified cleanroom.



Dan Panetti, *Vice President of Manufacturing*; John Panetti, *Owner*; Tom Panetti, *Vice President of Sales, Estimating, and Supply Chain Management*



From the ground up

These feats of growth are truly impressive when considering the company's roots.

As the years passed and the investors phased out, the last member of the original team is John Panetti, Team's current President and CEO. Today, 38 years later, John's sons, Tom and Dan Panetti, hold Executive positions within the company.

"From a family and a cultural standpoint, we have become the largest union shop fabricator in North America," says Viestenz. "And we've been able to do that with a culture today that started with the same principles, the same disciplines, the same approach to safety and cleanliness 38 years ago—we just elaborated on it," he shares.

"Today, we're a debt-free company, 100 percent," says Viestenz. "We're just under 400 employees right now, and we went from pulp and paper and brewery to today, where we serve almost 20 different industries."

A huge point of pride for Team is its company culture, something all employees—and the Panetti legacy—are pleased to embrace. "We have never lost track of the fact that we're a family-owned business," says Vice President of Sales, Estimating, and Supply Chain Management, Tom Panetti.

Team also values its long-standing partnership with UA Local 400 in Kaukauna, Wisconsin. In 2000, the two organizations collaborated to create a five-year UA pipe fabrication classification with an apprenticeship program, developing highly specialized tradespeople for the pipe fabrication industry.

Another feather in the company's cap is its history of producing industry-leading welding positioners, which the company has developed and produced to serve in every one of its weld booths. They are also available for purchase by other operators and fabrication shops across North America.

Indeed, when it comes to all the elements this company holds dear—safety, succession planning, defined values, consistency, mission, willingness to invest in infrastructure, workforce development, and R&D—being a financially sound company (and fully intending to stay that way) means that Team Industries stays plugged in, never cutting corners or giving up. "We're not in a position where we can afford to give up our defined values or willingness to invest in infrastructure or the future," says Viestenz. "We can't sit on our laurels and say we're going to coast for a while."



Born to Build

In Wisconsin, manufacturing isn't just an industry—it's in our DNA. We pioneered the nation's first Registered Apprenticeship system in 1911, and today we rank #1 in the nation for manufacturing employment in fabricated metal products and #2 for manufacturing employment concentration.

Plus, UA Local 400 built the United Association's only 5-year fabrication-focused apprenticeship, where we indenture dozens of welders annually and have hundreds in our membership who create custom spools for customers across the United States.

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Build your business bigger with Wisconsin Pipe Trades.

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Living its values and investing in the long term

While these principles might seem like obvious keys to success, the difference is in the extraordinary way Team Industries holds true to them and honors them every day.

To this end, Team prioritizes investing in new equipment, a choice that is always at the forefront when discussing ways to support employees' success and Team's competitiveness across different industries. "It can be a daily discussion of where to upgrade and become more competitive with the best technology," adds Panetti. That collaboration among equals has become vital for the company's ongoing success.

"It's one thing my father made sure of: that more than just one person is making the decision. Many department heads are brought in to examine the pluses and minuses and why [a given move] is going to be good for the team overall," says Panetti.

John Panetti is always looking forward, particularly when purchasing Team Fabricators in 2008, taking a big leap of faith. Today, that shop is up and running at full capacity in Port Arthur, Texas.

"In 2008, there was a lot of rolling of the dice, a lot of sleepless nights, a lot of wondering if we can exist down there," says Viestenz of the Texas location. "There were times along the way when industries we serve were slow, and we couldn't make it work, but John Panetti didn't throw in the cards. He doesn't like giving in. The Panetti family made that investment, and here we are today, reaping the benefits of it."

"We're basically now a turnkey solution to any fabrication need, no matter what industry you're in, right here at Team Industries."

Taking risks and making investments are in the blood of this family dynasty, including the recently opened high-purity cleanroom, which calls for different machines, different processes, different materials, and investing in training. Again, this success has come not only from investing wisely but from maintaining financial stability.

This is a vertical integration step that Team Industries has invested in to move the company forward, striving once again to differentiate itself from competitors and providing a needed product for the industries it serves. "We're basically now a turnkey solution to any fabrication need, no matter what industry you're in, right here at Team Industries," says Viestenz.



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Nearly four decades of a good thing

Approaching its 40th anniversary, Team Industries stands as a testament to what can be built through trust, patience, and shared values. The company's growth is not measured solely in square footage or revenue, but in reputation, resilience, and people.

Building trusted, long-term relationships with its workforce, supply chain, and customers is also key, and an approach that Team has upheld for decades. So how does Team maintain that workforce structure? "Anybody can grow, but managing your growth, preparing for the future, and proving your company in hard times is very challenging, because a lot of companies just disappear when things go bad," says Viestenz. In Team's case, it has future-proofed its approach by knowing the industries it serves, he adds. "We've been able to be the leader, but we do it humbly. We're grateful and blessed."



A culture of community

The company is also grateful for its tenure and for the ability to weather the ups and downs of the industry over time. "Even though we have a large footprint, we're still technically a small business at 500 employees or less," Panetti says. "For some companies, when they grow too much, it's difficult to maintain the personal touch they want to build their company on; you lose track of your roots. We want that culture to be ingrained in everybody. If you go too fast, you can't capture that culture."

That culture includes giving back through community involvement and outreach, whether through regular blood drives, contributions to the Make a Wish Foundation, or hosting high school and technical school students for tours and internships. "If you're going to act and play a prominent role in a community like Kaukauna, Wisconsin, you have to give back," Viestenz emphasizes.

Fortunately, the entire team agrees and works together to maintain the culture and atmosphere created at the outset. "Why are we better than our competition? Because when times get tough, even if we have to shrink in manpower, the infrastructure we invested in will be standing tall for the next shift, which we know will come," Viestenz says.

"We'll survive those valleys, and we'll survive them in a way where we'll still succeed, even in a downturn. If you look at our reputation and the tenure of our employees, it just speaks for itself." ■

Content Developed by Jamal Francis-Anderson | Designed by Isaac McWhinnie





WHERE QUALITY MEETS COMMITMENT

Spectrum Custom Packaging, Inc.
YOUR PARTNER IN CUSTOM PACKAGING

Looking to stand out among custom packaging manufacturers? Spectrum Custom Packaging has found a way to craft innovative and inspired custom packaging solutions by believing that what's on the outside is just as important as what's on the inside.



Written by Allison Dempsey

A global leader in custom package design, manufacturing, and distribution services since 1981, Spectrum has helped many customers develop products, from concept to consumer, with manufacturing facilities throughout North America, Europe, and Asia, using a single source to achieve manufacturing and distribution goals.

Starting with a fold

"We started as a folding carton manufacturer, but over the decades we've grown into a fully integrated custom packaging partner serving industries like food and beverage, health and beauty, medical, and consumer products," says CEO Shawn Pereira. "What's allowed us to stay relevant for 45 years is our ability to evolve with the market—whether that's investing in advanced digital prepress, expanding rigid carton capabilities, implementing FSC-certified processes, or strengthening ISO-driven quality systems."

This impressive longevity comes down to three things, says Pereira: relentless focus on quality, customer-first responsiveness, and long-term relationship building instead of transactional selling. "In an industry where pricing pressure is constant, we've built a reputation for being dependable, proactive, and solution-oriented," he says. "That consistency has carried us through economic shifts, supply chain disruptions, and major changes in packaging technology."

Being family-owned is one of the company's greatest strengths, he adds, affecting both its day-to-day and long-term vision. Daily, it means faster decision-making, direct access to leadership, flexibility when customers need solutions quickly, and a culture of accountability and ownership. "There's no corporate red tape or layers of bureaucracy," Pereira explains. "When a customer needs something solved, we can act."

It also means building generational value—not quarterly results—by thinking long-term and investing in equipment, people, certifications, and relationships that will strengthen the company for decades to come. Creating a culture where employees feel connected to the mission has resulted in many team members locking in at Spectrum for years and even decades, which translates directly into quality and service consistency for customers.

"Being family-owned gives us a different perspective on how we operate the business," Pereira says. "We treat our people like family, and running it that way, we take great pride in building a company where future generations will have an opportunity to make a career, which has been a big component of our success."

Investing in people

This means not only investing in the company itself, but in the employees too, he stresses, which allows them to continue to grow and contribute to Spectrum's success.

"A lot of companies don't invest in their people, so they become stagnant, and ultimately the company becomes stagnant. Quality is at the forefront in everything we do. There are a lot of companies out there that are price-driven, but you get what you pay for. We're a competitive company, but if we got the opportunity for a cheap price while delivering a poor product, we'd also have a poor reputation."

Because of this commitment to quality, Spectrum has maintained loyal customers for many years. Striving to be more proactive than reactive, Spectrum understands that "communication is everything. "I tell everybody, 'we're not perfect, but we're pretty darn good,'" Pereira says. "If something happens, if a machine goes down and it's going to jeopardize the delivery date, we're not afraid to talk to the customer proactively. It's always good to communicate with them ahead of time."

Spectrum's clients appreciate the dedication to service and response time, he adds, along with superior quality and turnaround. "Our customers expect that and we really do deliver."

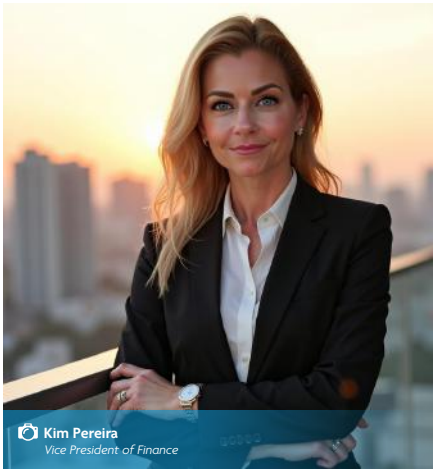
This commitment has been a priority since the beginning, and is at the forefront of the company's ongoing success, starting with dad Dino in 1981, and mom Fernanda, who has played a vital role as CFO, handling both finances and Human Resources.

"The company absolutely wouldn't be where it is today without them," Pereira says. "And then my wife, Kim Pereira, has played a very supportive role in building the company for growth and success. As Vice President of Finance, Kim has helped with foundational components we need to grow and scale as we get set up for growth here in the next five to 10 years. We have a pretty big vision."

That vision includes becoming a billion-dollar business in 10 years, he adds, and in order to do that, Spectrum needs to ensure its standard operating procedures and training systems will support that level of growth.




Shawn Pereira
CEO of Spectrum


Kim Pereira
Vice President of Finance


Fernanda Pereira
CFO of Spectrum



Strategy in partnerships

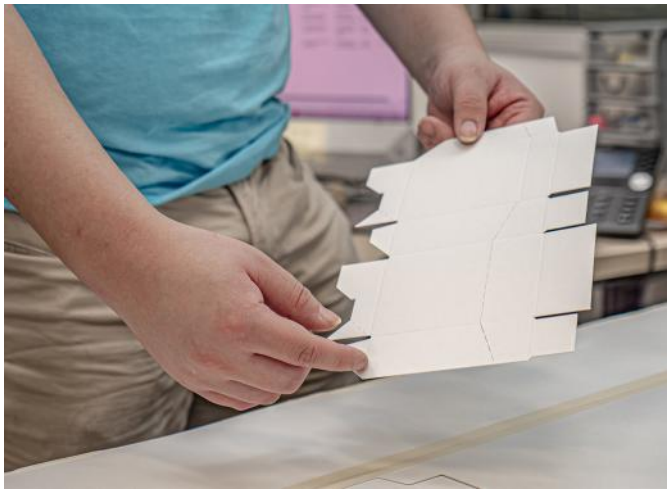
Spectrum has established strategic partnerships, with many partners and resellers having regional offices located strategically throughout the country. "The idea is to set up some manufacturing plants localized to their regional offices to support them as part of our growth strategy, as well as expanding into new technology and equipment to offer new products and services," Pereira explains.

> ***"I lean into my team, and I empower them to speak up if they have ideas."***

On the leadership side, Spectrum partners with Cardone Ventures, a company that aids in setting up for growth and scaling to help with operations, finance, marketing, HR, and sales, ensuring Spectrum has its foundation dialed in. "Along with that, they offer many workshops where we can send our employees for leadership and operational training, monitoring KPIs and metrics, and incentivizing your team up to the level of impact they can provide for the growth of the company," Pereira says.

Spectrum also brings in equipment manufacturers to spend time helping employees be more efficient in their daily processes; on the flip side, employees are encouraged to attend industry association events to participate in networking and see what's new out there, because it sparks ideas.

"I can't be the only one with the ideas, so I lean into my team, and I empower them to speak up if they have ideas," Pereira says. "Good leaders empower their people to speak their ideas. A lot of people don't want to say anything to their leaders, because sometimes leaders aren't open to hearing other people's ideas; they think they're above everybody else. I don't like to have that kind of environment. I want my people to speak up." »





Fitting rewards

This commitment to satisfying both clients and employees has led to a recent impressive accolade, receiving the 2025 Quality Plant of the Year, one of Spectrum's proudest achievements. The award validates the company's process controls, its ISO-driven systems, its continuous improvement mindset, and its ongoing commitment to exceeding customer expectations. "That award reflects what we already knew internally: quality isn't a department at Spectrum—it's embedded in our culture," Pereira asserts.

> ***"Quality isn't a department at Spectrum—it's embedded in our culture."***

While there are always challenges in growing a business, Pereira says some of the biggest include accessing a skilled talent pool along with navigating and investing in new, innovative technology. Tariffs have also had a big impact, as a lot of the equipment Spectrum purchases isn't made domestically, but while these challenges have all created some obstacles, Spectrum remains determined to put its clients' needs first.

"We like to look at our relationships with our customers as partnerships, not transactional," Pereira stresses. "We want to be solution-oriented manufacturers. We're the first point of interaction for a customer's product selling off the shelf. The packaging is just as important as what the product is inside."

Spectrum's goal is to support its clients, to help their products stand out, and to provide unique printing effects, whether that's a foil or a tactile feel for the packaging. "Packaging helps [customers] truly believe and trust that they're buying an elevated product."

Packaging and more

Working closely with customers, he says, is vital on the structural side, but it's more than just helping them create a "really cool looking package." Spectrum also helps solve problems. "We don't mind giving you a price on 10,000, but what does your order frequency look like? How are you warehousing this? We look for ways that we can help them save money by ordering differently," he says. "We bring a lot more to the table than just a price."

That includes embracing sustainability, especially when moving from plastic to paper with sustainable inks and coatings while still maintaining functionality.

To support sustainability, Spectrum is FSC (Forest Stewardship Council) certified, allowing customers to put the FSC logo on their packaging. FSC paper mills are audited annually, providing a chain of custody. "When consumers see that logo, they know this package was made with paperboard that came from a paper mill where, for every tree cut down, they replant a new tree as well as allow animals a habitat to live in," Pereira says.



The standout factor

What else sets Spectrum apart? Pereira emphasizes several details, including speed and structure.

"We're nimble like a small company but operate with the discipline of a larger one," he says, which includes building long-term relationships, especially with resellers and procurement teams who need reliability and top-quality product and culture.

"The 2025 Quality Plant recognition isn't marketing—it's operational reality," he stresses. "From incoming inspection to AQL standards to final production checks, quality is systemic."

Not a company to rest on its accomplishments, Spectrum also looks to expand its strategic reseller relationships, enhance internal SOPs and training systems, improve quote turnaround times and communication flow, and invest in leadership development and operational clarity, all while continuing to value how it treats employees and how it serves customers.

"At 45 years, we're not just celebrating longevity; we're celebrating evolution," says Pereira. "Spectrum has stayed relevant by investing in quality, people, and partnerships. And the next 45 years will be about scaling that excellence without losing the family-owned values that built this company in the first place." ■





Content Developed by Jamal Francis-Anderson | Designed by Isaac McWhinnie



A BEST-KEPT SECRET NO LONGER

MICHIGAN MANUFACTURING TECHNOLOGY CENTER

Written by William Young

The Michigan Manufacturing Technology Center (MMTC) continues its 30-plus-year mission to provide its home state's manufacturers with the tools and knowhow they need to succeed in today's marketplace.

2025 was a great year, says Lean Program Manager Josh Johnston, because MMTC was able to make an impact on myriad companies across the industry. Recently, MMTC, along with its leadership team, has been spending more time embedded in the manufacturing sector so that it can focus on building lasting capabilities for its clients rather than simply providing one-time training. In fact, he notes that as part of MMTC's overall strategy, the organization is enhancing its consultative and advisory services alongside its training programs to deliver deeper, more meaningful support to the manufacturers it serves. "Education still remains an important part of what we do," he says, as its foundation of continuous improvement is built on understanding both the tools and goals of any initiative.

Another focus of MMTC's has always been to evolve to match its clients' needs. Specifically, MMTC helps companies diagnose the challenges they face such that they can prioritize projects and initiatives that lead to changes and sustainable results.

While this priority shift has been in the works for years, 2025 was the big push forward into its implementation. To support this approach, MMTC is expanding opportunities for deeper client consultation. Dedicated MMTC Business Solutions Managers work directly with manufacturers to better understand their challenges and connect them with the right expertise and resources to achieve their goals. This approach allows MMTC to serve as a more strategic partner in helping clients strengthen and grow their businesses.



Josh Johnston
Lean Program Manager

MMTC will not be abandoning its training aspects wholesale, and in line with its commitment to evolving to meet client needs, it is always assessing its offering catalogue to identify both the most in-demand courses as well as those that are no longer serving the industry. Since the team works specifically with small- to mid-sized manufacturers, many of the problems faced by these outfits are those that manufacturing organizations of all sizes are also seeing today.

Johnston says that what differentiates MMTC's clientele is that many shop leaders tend to take on a number of roles: from general management and operations to hiring, logistics, and more. Often, these leaders don't have the capacity to step back and think about the long-term future of the business, which is where MMTC often comes in to offer assistance.

MMTC's business success planning—one of its primary offerings—will help these overworked and busy clients, Johnston believes. This is a process wherein an MMTC industry expert interviews the leadership team of a manufacturing organization to create a comprehensive analysis of where the company is now and compares it to where they want to be. This assessment then evolves into a practical three- to five-year road map that aligns with improvement projects, technology adoption, workforce development, and training. This way, leadership received clarity and relief for future planning while also figuring out how to keep the lights on tomorrow.

Johnston says that manufacturers today are facing greater complexity and uncertainty than ever before, and ongoing challenges, while nothing new, are varied. These include continuing volatility in raw material pricing due to fluctuating tariff policies; the industry facing an aging workforce as well as a limited talent pipeline entering the skilled trades to fill the spots; and all the hype around emerging technologies like artificial intelligence (AI). As one of the biggest global industry buzzwords today, AI is seeing a lot of excitement, yet companies often struggle with implementation and developing strategies to capture return on investment data.

Many manufacturers are hesitant to adopt the technology because they have been burned in the past by technology startups that have sold them unrealistic solutions or poorly-scoped pilot projects, or even pressured staff to adopt misunderstood tools to gain an intended early market advantage. Johnston notes that while there can be gains in efficiency and productivity, it must be implemented thoughtfully and strategically—otherwise, throwing technology onto a bad process only makes the bad process faster, not better.

With this in mind, another major focus for MMTC is to become the trusted advisor for Michigan's manufacturers in adopting and implementing various AI technologies. As such, MMTC will be expanding its offerings to help manufacturers move out of skepticism and into practical, value-driven applications.











"The 'a-ha!' moment is one of my favorite parts of the job."

The team spent much of last year creating ways for manufacturers to leverage this new technology, especially since companies that are late to the table risk getting left behind. One such method has been launching a series of courses on AI in manufacturing. In the first few months of 2026, MMTC has launched six new AI-centered courses including AI for Quality Control and Inspection (using AI-enabled visions and camera systems); AI for Manufacturing Leaders (how to introduce these technologies into your organization in a strategic, responsible manner and roll out solutions from the top down); AI for Supply Chain Optimization (leveraging deep research capabilities for in-depth supplier analysis and more); AI101 & AI102 Workshops (focused on generative AI basics and advanced ChatGPT use cases); and Lean Problem Solving With Generative AI (how large language models can be used to expedite effective problem solving).

The new push into artificial intelligence systems for manufacturing is also allowing MMTC to expand physically. A new AI lab in its home of Plymouth will serve as a space for manufacturers to experience new AI technology and simulate an on-premises solution without putting a business at risk. MMTC has also been hosting workshops across Michigan to give industry people a chance to gain hands-on experience with new technology and tools.

This has been a very exciting venture, according to Johnston. "The 'a-ha!' moment is one of my favorite parts of the job," he says. By demystifying these technologies and making artificial intelligence feel less intimidating for new users, MMTC provides a launching point for clients to take back their companies. Its long-term focus will be on helping manufacturers cut through the AI hype, make informed decisions, and realize a measurable return on their outcomes instead of just chasing technology for the sake of it.

Amid today's market challenges, the Michigan Manufacturing Technology Center is energized by its renewed direction. Last year, MMTC launched the inaugural ***Manufacturing Insights Survey*** to capture manufacturer feedback on trends, strengths, challenges, and opportunities. From these responses, MMTC produced the ***Manufacturing Insights Report***, which highlights the concerns and priorities of small and midsize manufacturers across the state while offering actionable solutions and outlining how MMTC can help them. The full report is available at **www.the-center.org**.

Ultimately, Johnston says, MMTC's "goal is to not be the best-kept secret in Michigan," but rather to be a trusted and established aid for Michigan's manufacturers to call on for anything they need. ■

Content Developed by Scott Forbes | Designed by Isaac McWhinnie





LEARNING FROM HISTORY, LEADING WITH INNOVATION

ATLAS TECHNOLOGIES
Division of Stonebridge Technical Enterprises, Ltd.
INNOVATION, DURABILITY, PRODUCTIVITY

With thousands of die change installations globally, pressroom automation leader Atlas Technologies celebrated its 60th anniversary last year. Following several years of upgrades to its knowledge base, technology, and more, the company is now poised to expand its market share. While it has many customers in fields like appliances, aerospace, and automotive, this is by no means a one-size-fits-all outfit.

Written by Pauline Müller

Over the past six decades, Atlas Technologies has proven itself in innovative global die change equipment with automated cart technology that is reliable, durable, and prioritizes safety. Today, from its base in Fenton, Michigan, the company is stronger than ever.

After spending many years as a coveted industry specialist known mainly to a discerning few, the company today is increasingly respected for its fast die changers and robust die-movers that manage dies of 80 to 200 tons, plus its extensive line of equipment for sheet metal stamping and fabrication processes. It also recently reinvented its capabilities and its people, appointing a new sales accounts manager in the process. Its customer base and its teams have welcomed the improvements.

President David Hense is especially positive about the recent changes. "Since Stonebridge Technical Enterprises took Atlas over five years ago, we've been focusing on our internal processes and product development to make our entire product line cutting-edge for the manufacturing stamping industry," he says.

This move not only stimulated product evolution but also contributed to the deeper development of its people. In recent years, in-depth staff education has translated into in-house training in collaboration with key manufacturers and the State of Michigan, in a decision that has proven to be tremendously valuable for the company's continued success.

"We're really proud of our employees; we have a nice team. They're very flexible and knowledgeable," Hense says, highlighting that watching employees new to the industry grow and flourish through focused education is a genuine pleasure.







Now, with its most recent overhaul complete, the company is welcoming new and returning customers alike to enjoy the results. "I'm an engineer," Hense says, adding with a smile that the company's new sales accounts manager is far better at marketing the company than he is. As its social media presence and press visibility continue growing, the firm is excited to welcome new trade partners and end users alike.

Not one to pepper conversations with commercial buzzwords, Hense instead leads by providing customers with top quality engineering and letting the premium work speak for itself. It is thanks to this approach that Atlas Technologies continues trading on a reputation for reliable, durable products and outstanding financial management. The company also invests in the latest technologies which ensure cutting-edge control systems that can be customized to suit customers' needs.

Hense illustrates this customization with the example of de-stacking machines—heavy equipment used for feeding sheet metal on press lines. While it would be lovely to replicate these machines exactly for all customers, unique process needs simply do not allow this. "The product mixes and the mechanical strain that products place on equipment don't make it practical," he explains. Therefore, while key components are used across systems, every system is unique. "We pride ourselves on the ability to [adapt] to customer needs."

Keeping itself at the forefront of innovation, Atlas Technologies perpetually pushes the boundaries of its field. As a result, there are a few fresh and innovative lines in its product reveal. Firstly, its FLEX Transfer collection comprises three series of front-to-back mounted, in-press servo transfers that move parts between stamping dies in a transfer press. This collection also offers two series of through-the-window-type transfer models—all five showcasing the state-of-the-art driving mechanics and control systems. This decision was based on the high performance and durability track records of these products. The company's driving mechanics "are built on 40 years of proven methods and technologies. We didn't reinvent





the wheel when we came to the mechanical drive system," Hense points out. "We used what works and made it better."

The second collection—the Navigator Carts Series—features an expanded line of trackless transfer carts for transporting oversized loads such as molds, coils, and dies across fabrication facilities as well as components used in wind turbine and rail car fabrication, for instance, between assembly cells.

With the positive recent developments in reshoring fabrication, Hense is excited to see the process slowly beginning to take shape in the industry and on the company's balance sheet as many of its clients return their press lines and other tooling operations to home soil. Alongside this shift, other operators are setting themselves up from scratch with greenfield sites, new facilities, and new staff. In many such instances, Atlas Technologies is invited to provide planning and fabrication support for the next decade or so. One recent contract with an international industry leader is especially exciting. "We're excited to be part of the future that this global powerhouse of a company is presenting," he says.

Recent geopolitical decisions have somewhat curbed international trade volumes while also reducing export volumes to the rest of North America, so the company's current reach stretches primarily across the United States for now. Since the resulting economic situation has caused uncertainty for manufacturers in how they allocate their largest investments, business has, understandably, been slower in some areas than when trade and exportation were more predictable. As markets adjust, however, Hense indicates a rise in orders in recent months. He also points out that the company has been holding off on price increases despite a rise of 30 percent in the cost of automation control systems.

In the meantime, it continues to be an exciting time in the company's history. "We're proud to be part of people who are outfitting old manufacturing lines and updating them into new state-of-the-art systems," Hense says of the innovation that is contributing to the health of the American fabrication industry and saving operators millions. To this end, Atlas Technologies offers tremendous value to companies with large heritage arrays like tandem lines. In such cases, its tracked cart series is especially favored. These are installed with robots mounted atop as robot transport carts that transfer components between presses along an entire line.

"When it comes time for die change, the robot carts move out of the way, and from the other side, a die cart enters in between the presses, and then you change the dies in the press line," he explains. As there are many of these older systems throughout the United States, Atlas's robot systems save on wasting precious long-term capital investments from years gone by.

Closer to home, the company considers its investments in its people as some of the most important it will ever make. While a previous period of training saw all its staff officially complete their Occupational Safety and Health Administration certifications due to a Going PRO Talent Fund training grant from the State of Michigan in 2024, new intakes are now completing hydraulics, electrical, programming, and other courses. Apart from appreciating his existing team, Hense is equally impressed with the company's most recent appointments—capable, hardworking, and willing to learn, these young people give him hope for the future.

Putting its efforts into boosting sales and expanding market reach, the company continues leading with expert staff and legendary quality rooted in decades of evolution. "I'm really proud of this company. We have hard workers, and our people understand the needs of our customers," Hense says confidently. It is indeed the company's ability to evolve based on past experience and its drive to innovate a better future that underscores reaching the fiscal and cultural goals ahead. By continuing to navigate change better than ever before, this industry leader remains a constant of American pressroom automation. ■

Content Developed by Jamal Francis-Anderson | Designed by Natasha Crawford

WORKPLACE SOLUTIONS THAT WORK

SYMBIOTE

Written by Jessica Ferlaino

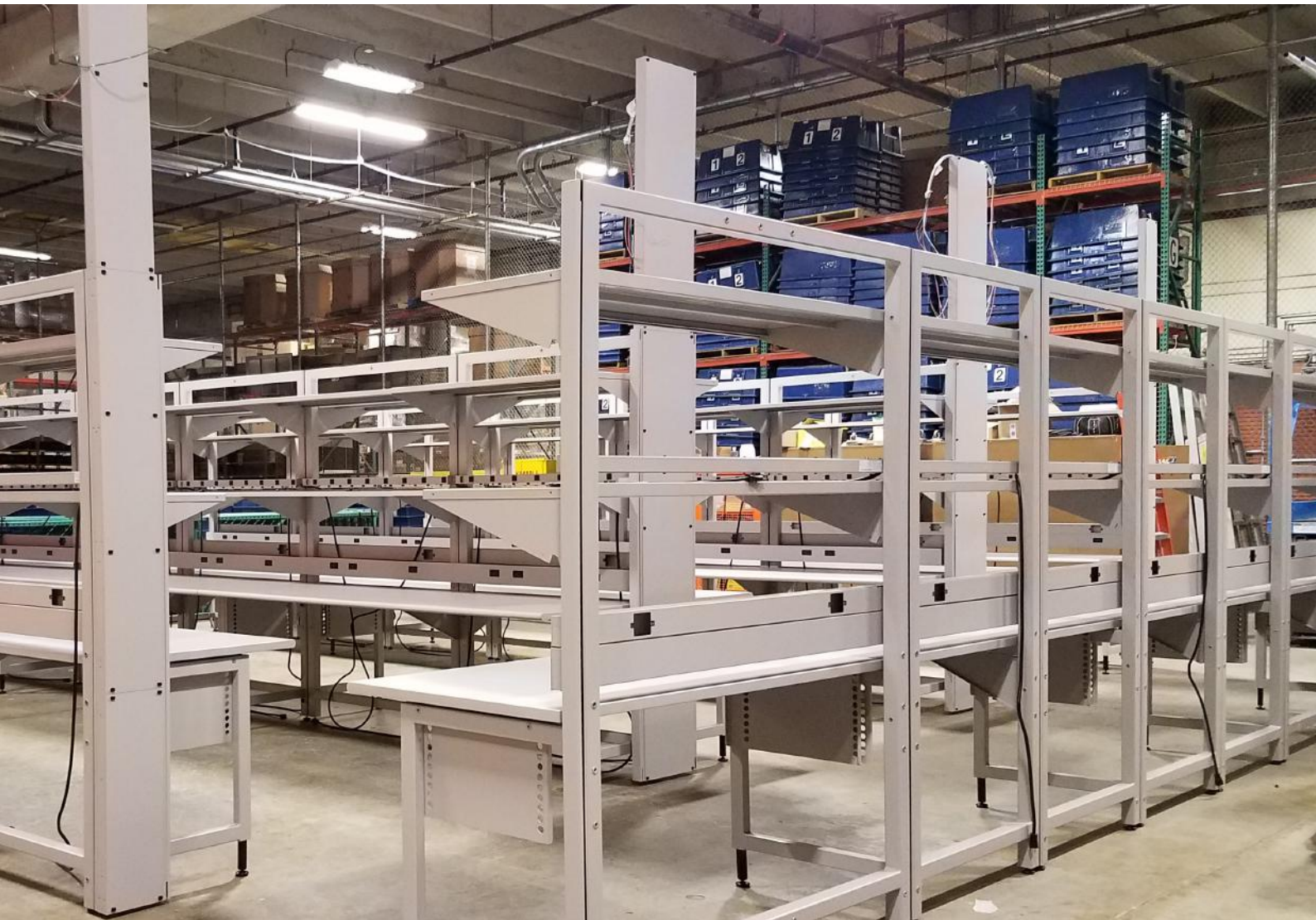
Symbiote is a manufacturer of specialized laboratory, technical, and healthcare furniture who, alongside its partners, seeks to elevate its clients' spaces and the work that can be done within them. The company's in-house manufacturing, production, engineering, and interior design work is informed by a deep intergenerational expertise that bridges the gap between people and the work that they do by optimizing the interaction between the user, the equipment, and the application.

Symbiote's thoughtfully designed modular and heavy-duty workstations, height-adjustable tables, storage solutions, and more are a part of achieving symbiosis in the workplace to promote maximum performance and efficiency at a time when every moment and every dollar counts.









Generations of success

For more than four decades, Symbiote has delivered complete solutions for its customers across diverse industries and specialties. Backed by a reputation for quality since 1982, when it was founded by Travis Randolph, the company continues to seek out new opportunities to serve its markets and grow sustainably.

Since 2019, the company has been on a new trajectory of growth under the leadership of Travis's son, Barrett Randolph, who has taken the reins as President and infused a fresh sense of energy and vision in the company, helping it to navigate some challenging times. Stepping up to the plate just before the onset of the pandemic—and then into the present tariff environment, which has essentially eliminated its international business—Barrett Randolph has taken charge, developing and executing a new five-year plan.

> ***"A big part of it is starting with the right people in the right seats and finding the right team."***

Along with a significant investment in the company's infrastructure, the goal has been to add the manufacturing capacity to enable launches into different markets, as well as to diversify and grow sales and product development capabilities. "Part of the strategic plan that I had created about five years ago is to be more efficient, with an ability to increase sales and output without having to increase the headcount," he explains.

"A big part of it is starting with the right people in the right seats and finding the right team to lead, and I've got to say that one of the smartest things I think I've ever done is actually hire a CEO," he says.

Enter CEO Kerri Milarch, who was thrilled to join the team in 2023. She refers to that time as "a pivotal moment in the company's evolution," the fulfillment of Barrett Randolph's vision to grow Symbiote through elevated brand awareness, expanded market share, and investment in the company's capacities to ensure it is a place people are proud to work at and partner with.

Noting that Symbiote's product offering has always been "exceptionally strong," Milarch says that the investment in capacity and infrastructure has been momentous, particularly from a process improvement and documentation standpoint, which will enable the company to scale sustainably in the future.

From inventory control systems—which improve the ability to measure and utilize data and track inventory and performance across business segments—to a brand new website equipped with the digital tools a growing team of sales representatives needs, the investments are strategic and impactful. As Randolph tells us, "they can actually create the entire space for the customer digitally and provide floor plans and renderings for them upfront before they place an order. That's not something a lot of companies like ours do, or at least they charge a lot for that service, whereas we bundle it in as the cost of business."



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Strengthening capacity and relationships

There has also been a push to streamline the manual aspects of the workflow at Symbiote, training and cross-training employees (which Milarch refers to as "nesting") to support the company's growth, enable faster quotes, reduce lead times, and optimize performance overall.

"The particular focus in that area was how to serve the customer better," she says, and also how to free up Barrett Randolph "to do what Barrett does best, and that is product development. He is excellent and a visionary when it comes to research about what's next for us."

Through that activity, there was a realization that, to sustain demand, greater redundancy was needed, which is why Symbiote has continued to grow partnerships, cultivating a balance between in-house manufacturing and third-party support.



E Com Seating is a perfect example of that partnership in action. Like Symbiote, a multigenerational family-owned business, there is a shared commitment between the parties to elevate the performance of the spaces within which their clients work.

"They provide lab seats and chairs for laboratories, and instead of trying to develop our own lab chair, which would take years, we've partnered with them. They offer a great selection of products that we can immediately offer to our customers to fill out their lab spaces even better," says Randolph.

By scaling back in this way, Symbiote can undertake some production in-house but continue to focus on the customers and their needs, as well as ongoing product development and customization. Fewer parts are being made overall, but sales are on an upward trajectory.

For Randolph, "We're going to focus on what it is that we do well, what our customers want that we don't offer or that doesn't exist right now, and put real effort into making new products for them." He also envisages getting both the company's customized and standard lines of products to the market more effectively through an expanded sales network nationwide.









Meeting people where they are

Symbiote is respected for equipment and service that meets users where they are, creating that perfect symbiosis in the workspace. It's not simply what the company does, but rather, *how* it does it, that sets it apart from the rest. Further to its investment in capacity and infrastructure, Symbiote takes a conscious approach to building a culture that encourages and empowers its people to be part of the company's success, creating symbiosis internally just as it does with its customers.

"From my perspective, to bring the teams along, you have to win their hearts and minds and let them be a part of this," says Milarch, and with policies and provisions such as flexible work hours, training, wholly paid health insurance premiums, competitive 401(k), and a carbon neutral facility from which to work, Symbiote is a place where people are proud to work.

Employees get more than just the satisfaction of improving their clients' workflows; they get to be the best living example of those principles in action, thanks to a results-oriented culture that is open to change and evolution, which, to be honest, is often quite hard for family-owned operations of this scale.

From Milarch's perspective, Symbiote is family business done right. "I couldn't ask for more support than that from the family that owns this business because that's what's really going to drive our success," she says. "Like I said, we have to win the hearts and minds of our people, and throughout these last three years, there have been some difficult times; I'd be kidding if I said there weren't. But I have really learned to respect and enjoy this team. They are remarkably resilient, and they have an excitement about the future and where we're headed."

By maintaining continuous improvement, Symbiote has built an enthusiastic staff who want to be there each day and who drive value for the customer through that upbeat approach and energy.

Purpose-driven change

In any business, the ability to be successful lies in the ability to adjust, adapt, and focus on what can be controlled, and this is ultimately what Symbiote is doing to navigate the headwinds it has encountered.

"It's a constant re-evaluation of what levers you must adjust to make things run smoothly—from what was to what will be—and again, it's making sure you have the right team in place. You can have a great product that everyone wants, but if you don't have stable processes and good people pulling in the same direction, it doesn't really matter. You need a unified team to work well," says Randolph.

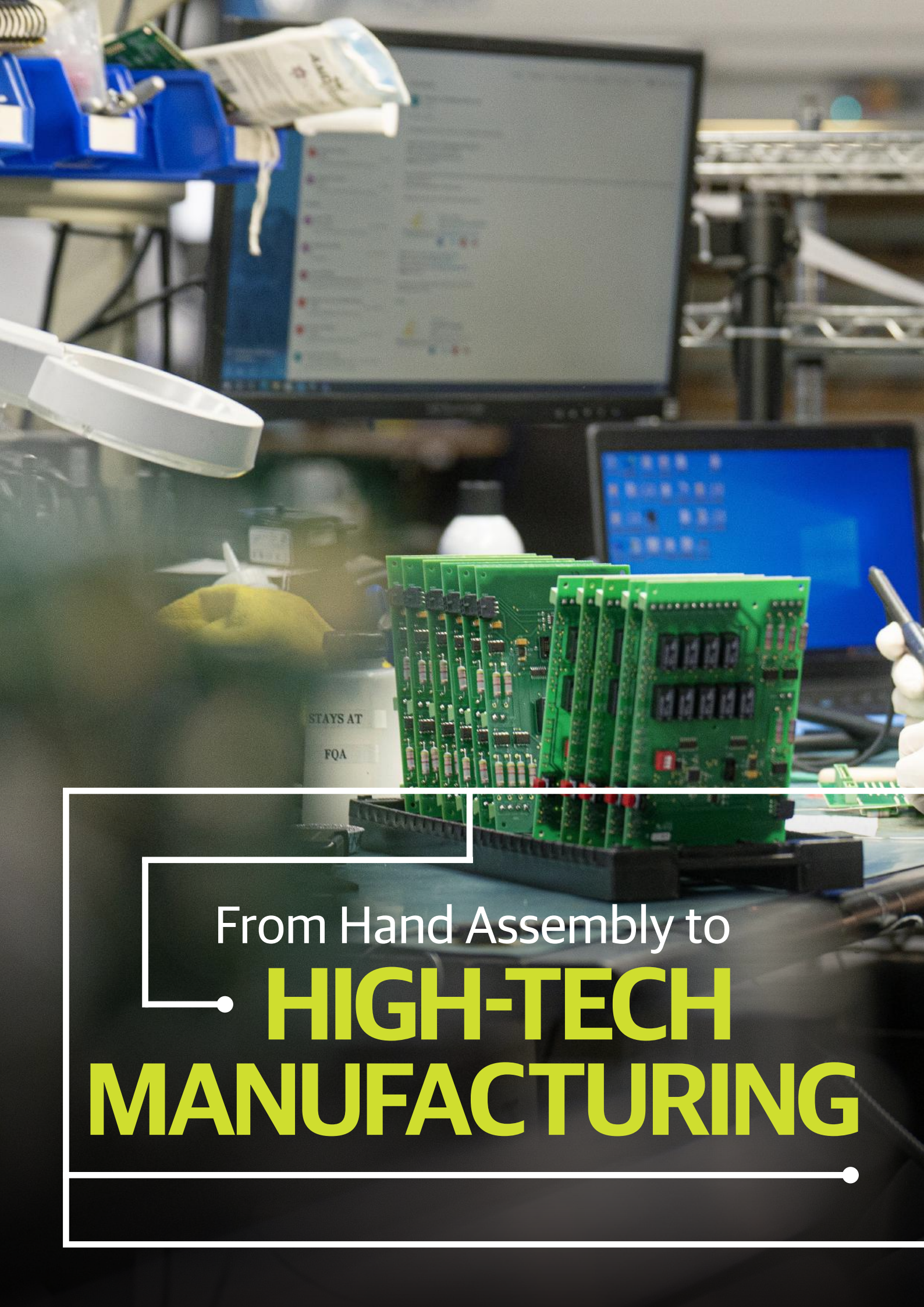
For Milarch, the company has become "more aligned, disciplined, and prepared for scalable growth," with 2026 looking good already and building on the clarity, capacity, and redundant systems in place to sustain growth internally and externally.

"We have a shared sense of purpose now," Milarch says, and it's time to share that with the world, creating a more defined and outward sense of brand awareness and furthering the capacity to achieve customers' goals with unceasing care and commitment to quality and relationships. ■



Content Developed by Erin McWhinney | Designed by Isaac McWhinnie





From Hand Assembly to

HIGH-TECH MANUFACTURING



Written by Vicki Damon

In an era when global supply chains are being reshaped and advanced manufacturing technologies are rapidly evolving, few companies embody the modern manufacturing renaissance quite like PTG Electronics.

Formerly known as Pinnacle Technology Group, this Michigan-based electronics contract manufacturer has spent more than four decades building a reputation rooted in craftsmanship and customer partnership. Today, under the leadership of second-generation President Nick Wasserman, PTG is boldly reimagining its identity, operations, and future trajectory.

From humble beginnings in hand-assembled circuit boards to a sophisticated, technology-driven manufacturing enterprise serving high-reliability industries, PTG's story reflects both the resilience and reinvention defining American manufacturing today. The company traces its roots back to 1984, when it was founded as a small electronics assembly operation in Toledo, Ohio. At the time, production relied heavily on manual labor, with technicians carefully assembling through-hole electronic components by hand.







Nick Wasserman
President of PTG Electronics

That changed in 1996, when Nick Wasserman's father acquired majority ownership of the company and renamed it Pinnacle Technology Group. Under family leadership, the company began charting a path toward modernization and long-term growth.

In 2001, the company acquired an Ann Arbor-based operation that specialized in surface-mount technology (SMT), significantly expanding its technical capabilities. The acquisition allowed PTG to integrate automated equipment into its processes, dramatically increasing production speed and complexity. By 2005, it became clear that continued growth required a purpose-built facility. The company secured land in Ottawa Lake, Michigan, just across the Ohio border, and constructed a modern production plant designed to support long-term scalability. In early 2006, operations consolidated into the new headquarters, setting the stage for nearly two decades of sustained expansion.

"What began as a hand-assembly operation is now a digitally connected manufacturing ecosystem."

Since then, PTG has grown substantially in size, sophistication, and market reach, now operating two facilities and employing 65 team members across Michigan and Ohio.

In January 2026, Pinnacle Technology Group officially became PTG Electronics, a change driven by both strategic necessity and long-term vision. What began as a conversation about digital marketing and online visibility soon evolved into a broader reflection on brand identity. As customer engagement increasingly moved online, the leadership team recognized the importance of differentiation and searchability in an overcrowded digital marketplace.

"We were talking about how our marketing efforts were a little behind the curve," says Wasserman. "The way business development happens today is fundamentally different; you're not just walking into buildings anymore or relying on phone calls, you must show up digitally, and you must be visible."

During those discussions, the leadership team confronted a recurring challenge: brand confusion. The name Pinnacle, while familiar, had become overly saturated across industries, leading to misdirected calls and marketplace ambiguity.

The result was PTG Electronics, a name that preserves the company's heritage while instantly communicating its purpose. "At the core of it, we are an electronic contract manufacturer," says Wasserman. "By putting 'Electronics' in the name, anyone

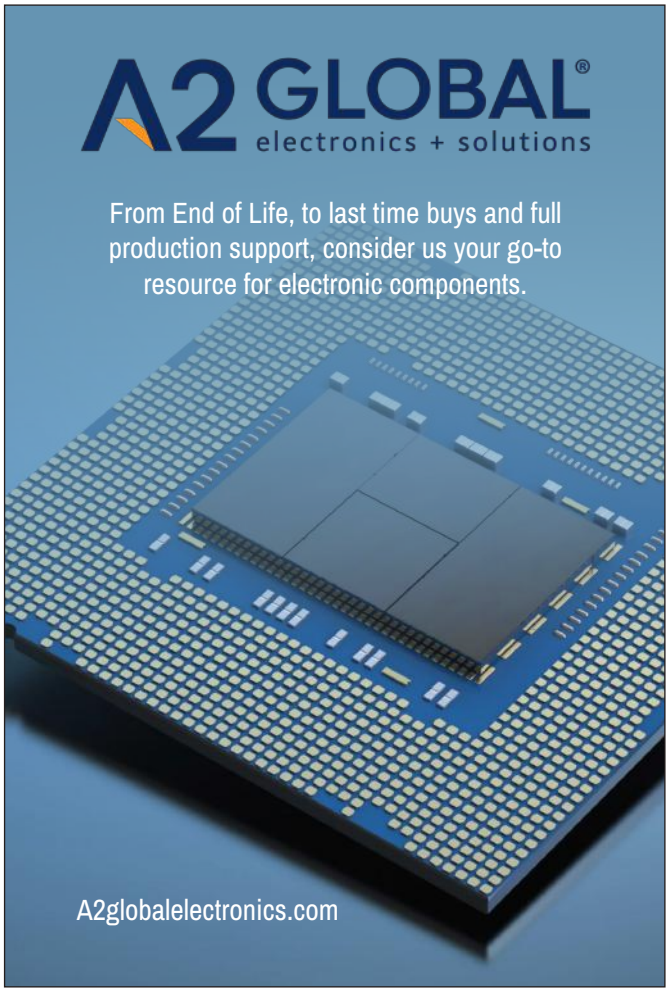
coming across our business can immediately understand what industry we serve and the services we provide."

The rebrand also symbolizes the company's generational transition, as Wasserman leads PTG into its next chapter with renewed energy and ambition.

Today, PTG Electronics delivers fully integrated electronic manufacturing services, supporting original equipment manufacturers (OEMs) across a wide range of industries. Its capabilities span the entire production lifecycle, from printed circuit board assembly to full electromechanical box builds.

The company operates four SMT production lines along with a suite of semi-automated assembly and testing systems. These allow PTG to rapidly place, solder, inspect, and validate electronic components with exceptional consistency and accuracy.

Beyond board-level assembly, the company offers a full suite of services including programming, functional testing, environmental coating, and turnkey box builds, delivering fully assembled and shipment-ready products. This end-to-end manufacturing approach reduces complexity for customers while ensuring quality and accountability throughout every stage of production.







Equally important is PTG's experience as an OEM of medical training products, which gives the team unique insight into customer expectations. "As a successful OEM of medical training products, we understand firsthand what clients need from their electronic manufacturing service provider," says Wasserman. "That perspective drives our focus on quality, efficiency, attention to detail, and excellent service."

Indeed, PTG's evolution over the past two decades has been driven by continuous investment in technology. What began as a hand-assembly operation is now a digitally connected manufacturing ecosystem. "We didn't even really have automated equipment when we first got going," says Wasserman. "Now we have four SMT lines and a whole complement of semi-automated equipment for assembly, testing, and box builds."

The company has also begun integrating artificial intelligence into its operations, starting with AI-based quoting systems that streamline pricing and accelerate response times. Future plans include deeper system integration, allowing real-time data sharing across departments and automating data entry processes. "Soon we'll be able to pull data faster and increase accuracy significantly. It's going to save a tremendous amount of time," shares Wasserman. Rather than viewing automation as a threat to employment, PTG sees technology as a way to enhance human capability and improve quality.



Another cornerstone of PTG's operational philosophy is continuous improvement, not only in processes and technology, but also in people. For the past several years, the company has partnered closely with the Michigan Manufacturing Technology Center (MMTC) to strengthen workforce training and leadership development.

MMTC supports PTG by providing access to grant opportunities and leadership development initiatives. Recent collaborations have included supervisory training and advanced problem-solving courses designed to empower frontline employees.



"We've sent four people in the last year to supervisory training to understand leadership qualities, how to manage people and navigate different personalities," says Wasserman. "We also use problem-solving courses that improve quality and operational efficiency. These programs give our people tools to make better decisions and reduce risk on the plant floor." By investing directly in employee development, PTG builds a more capable and engaged workforce, one that can adapt quickly to new technologies and evolving customer demands.

Perhaps the most defining characteristic of PTG Electronics is its unwavering commitment to partnership. Rather than transactional manufacturing relationships, the company emphasizes

long-term collaboration and mutual success. "One of our core competencies is truly taking a partnership approach," emphasizes Wasserman. "We invest in our customers as if they are an extension of our business."

This philosophy, rooted in the company's family ownership, guides everything from engineering support to quality assurance. PTG prioritizes long-term outcomes over short-term margins, believing that sustained success comes from consistently delivering value.

The results speak for themselves. PTG's longest-standing customer relationship spans 28 years, while its top clients have remained loyal for more than 15 years.

"We don't take shortcuts," says Wasserman. "We support our customers even when it's not the easiest thing to do, because we know that if they succeed, we succeed."

As reshoring efforts gain momentum across the United States, PTG finds itself well-positioned to benefit from a renewed emphasis on domestic manufacturing. All its production takes place within its U.S. facilities, allowing customers to maintain tighter supply chain control while reducing risk and improving responsiveness.

"There's been a shift back toward manufacturing things in the United States," Wasserman explains. "We only build here in America, and we're very proud of that."

Looking ahead, PTG has set an ambitious goal: doubling the size of the business within the next three to five years. Central to this strategy is expansion into high-reliability sectors, particularly aerospace. The company is currently pursuing AS9100 certification, which will qualify it to manufacture electronic systems for aerospace applications. This strategic move complements PTG's existing strengths in the medical, industrial, and advanced technology markets, further diversifying its customer base while reinforcing its reputation for quality and precision.

As PTG enters its second generation of family leadership, Wasserman is keenly aware of the balance required between honoring legacy and embracing innovation. "We never want to lose that customer-first relationship mantra," he says. "At the same time, we need to be quicker and more open to evolution and change."

This stance informs PTG's approach to AI integration and operational modernization. While the company may have entered some digital initiatives later than others, its leadership is now firmly committed to staying ahead of the curve. And, alongside its technological sophistication, PTG remains deeply grounded in its family values. The company culture emphasizes respect, accountability, collaboration, and pride in craftsmanship.

With 65 employees across two facilities, headquarters in Ottawa Lake, Michigan, and a secondary site in Maumee, Ohio, PTG fosters a workplace environment where individuals are empowered to grow and innovate. That human-centric approach not only strengthens internal culture but also translates directly into customer outcomes, creating a cycle of trust, loyalty, and excellence.

As PTG Electronics charts its course forward, the company stands at the intersection of tradition and transformation. With advanced manufacturing capabilities, a growing digital presence, expanding workforce development initiatives, and a renewed brand identity, PTG is positioned to play a leading role in the future of American electronics manufacturing.

Its journey, from a modest hand-assembly shop to a technology-driven, high-reliability manufacturing partner, serves as a compelling example of how thoughtful leadership and unwavering values can shape lasting success. For Wasserman and the entire PTG team, the mission remains clear: deliver exceptional quality, build enduring partnerships, and engineer solutions that empower customers to thrive in an increasingly complex world. ■

Content Developed by Jamal Francis-Anderson





Trivalent Chrome, Talent Development, and the ROAD to GROWTH

Written by Nate Hendley

Major developments have been taking place at Lapeer Plating + Plastics, Inc., (LP+P) since ***Manufacturing in Focus*** last checked in with the Class A auto parts manufacturer in April 2025. The company has made a huge capital investment in its plating line, purchased new electric injection molding machines, and is enhancing its reclamation and waste treatment services.

The centerpiece of these recent upgrades is a $3.8 million investment in a trivalent chrome plating system. Trivalent plating entails the use of trivalent chromium and is becoming a popular alternative to traditional hexavalent plating, which relies on hexavalent chromium. The trivalent process produces less hazardous waste and other pollutants than hexavalent plating, while still offering excellent corrosion protection.

"Trivalent is your last step in the plating process," explains Plating Manager Steve Sedely. "It's a different type of chrome compared to the standard hexavalent chrome. It's more environmentally friendly."

In addition to providing ecological benefits, going green was a smart business move, given Lapeer's clientele. "Our largest customer, which is General Motors, made the decision that future chrome components used on its vehicles will require trivalent. So, for us to stay aligned with our largest customer and obtain work with the new vehicle programs, we had to make this investment," explains CEO Doug Goad.

Premium plating and much more

Based in Lapeer, Michigan, LP+P offers chrome plating, injection molding, and assembly services. Of these competencies, "plating is the heart of the company," says Goad.

To this end, Lapeer uses high-end electroplating processes to apply chrome, matte, and other finishes to parts and products, with ancillary services including post-plating, a category that covers mask-painting, vacuum metalizing, and hot stamping. LP+P's main products include grilles and moldings, decorative trims, ornamentation, and emblems, items primarily made for the automotive sector.

Lapeer didn't expand its 135,000-square-foot plant or add a new line to accommodate the equipment required for trivalent plating; instead, the company spent part of this summer reconfiguring its existing plating line. This was accomplished on time and on budget, and the line was back in operation by early September.

"The line is constrained by the size of the building. Steve and his team put a plan together to extricate some of the tanks, install some new trivalent tanks, stretch the line out a little bit, remove and move different plating equipment, and pack it all back in the same footprint. We're not looking at expanding the building itself, but you never know what the future might bring," Goad shares.

The introduction of trivalent plating will not be accompanied by a sudden spike in production, he adds. "Our capacity for the number of pieces we can actually produce has not necessarily increased; what the upgrade has done is give us a dual capability with the probability that things are going to shift over the long haul from hexavalent to trivalent... We'll go into production on the trivalent line in October 2026, on the new GM trucks."

While the introduction of trivalent plating was a response to GM, there is "a big push for all the OEMs" to adopt the trivalent process, notes Sedely. Toyota, for example, has expressed interest in finishing more parts with this process. As such, Lapeer stands to pick up new work from a variety of sources.

"We fully expect this will open the door for us for a number of customers that we are going after... Over the next decade, requirements will continue to get more and more environmentally friendly. We positioned ourselves to be part of that shift," states Goad.



Making changes

If the introduction of trivalent plating has been a major cause for celebration, the company hasn't neglected other aspects of its operation. Lapeer recently acquired three new electric injection molding machines and may replace other machines with electric models in the near future. The new electric molding systems "are more accurate and more efficient" than the injection molding machines they replaced, which were between 20 to 30 years old, explains Goad. LP+P is also re-evaluating its painting capacity and investing in its nickel and metals reclamation systems. Enhancing its efforts to reclaim nickel and other production materials is a good way to reduce costs and benefit the environment at the same time.

In the same spirit, "we're looking at a new waste treatment system as well... having the cleanest and most up-to-date waste treatment system possible," says Sedely. LP+P would like to reduce the amount of PFOS (Perfluorooctanesulfonic acid), a synthetic chemical and dangerous pollutant, in its operations. Commonly used in metal plating processes, the presence of PFOS is "a growing concern," he says.

In addition to gaining new prospects with GM, recent changes at LP+P have been driven by broader economic trends. "We're actively looking at where we can make ourselves much more efficient to compete in this industry. There are a lot of new opportunities coming due to some of the reshoring taking place. The challenge, with some of this reshoring, is that people have gotten used to some very, very competitive prices [from overseas]. In order to compete, we have to make ourselves much more efficient," says Goad.

He is referring to domestic manufacturers who have considered moving their offshore operations back to North America. Lapeer is proud of its multi-faceted capabilities and made-in-the-USA approach, so this could be a winning combination if the reshoring movement gains momentum.

It also helps that LP+P has a reputation for doing excellent work; the company has International Automotive Task Force (IATF) 16949:2016 certification for the production and decorative plating of plastic wares. And as part of its overall focus on quality, Lapeer also strives to reduce waste and scrap, maximize machine productivity and efficiency, and follow a continuous improvement ethos.

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Building the workforce

In support of its growth, Lapeer continues to practice progressive recruitment methods. As noted previously, the firm has formed partnerships with groups such as the Lapeer County Community Mental Health Agency, Job Corps (a U.S. government career-training program), Goodwill, and Michigan Rehabilitation Services (MRS) to source workers. Some of the potential recruits from these agencies have mental disabilities and other challenges that make it difficult for them to find employment. By bringing such individuals on board, Lapeer can bolster the ranks of its workers while assisting a disadvantaged demographic at the same time.

"We're continuing to maintain a diverse work environment with individuals facing barriers, and we've gotten a lot of support from community partners," says Human Resources Administrator, Joe Du Breuil.

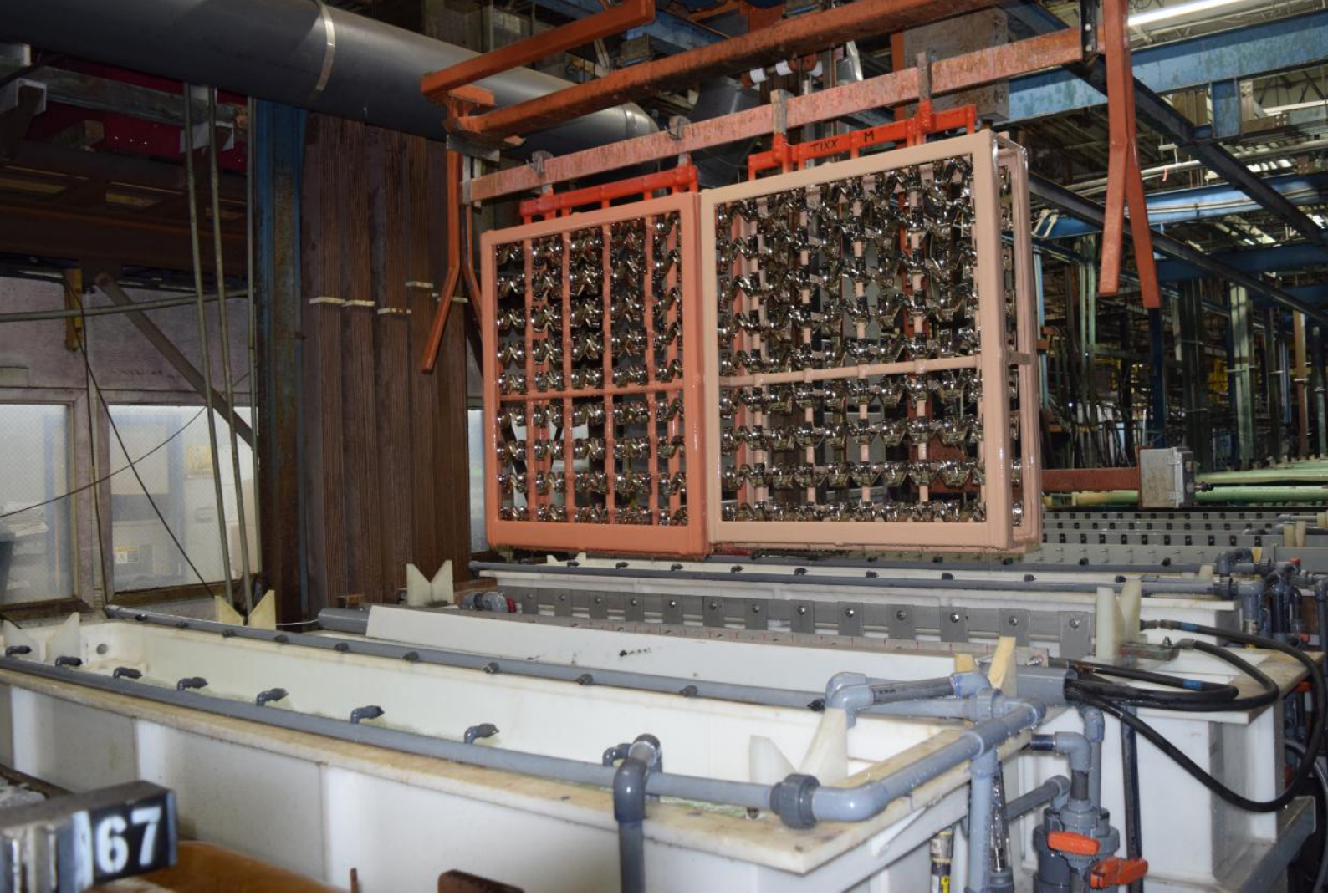
LP+P employs approximately 270 people at present. Complicating matters is the fact that, industry-wide, skilled workers in the manufacturing sector are edging toward retirement and young people don't seem eager to replace them. The situation at Lapeer is particularly critical as the company's operations are still relatively labor-intensive, Goad tells us. "If you look at our plating system, bars are moved in and out of that system manually," he notes.

To address the labor issue, Lapeer has brought in some new hires who have demonstrated an aptitude for mechanical work, then trained them so they can maintain existing plant equipment.

"Maintenance is an activity that nobody pays much attention to; everyone looks at the new equipment, the robotics. The fact is, there are still lots of companies that have lots of older equipment that needs to be maintained, and those skill sets are disappearing, so we're developing our own people to be able to keep the machines up and running," says Goad.

"Lapeer remains very much in growth mode."

The company has also introduced a Department of Labor-approved apprenticeship program. "It's a four-year program where individuals have their schooling either partly or completely covered through scholarships and grants, through the state of Michigan," explains Du Breuil. The program blends in-house training with classroom learning. Participants will receive lessons on subjects such as hydraulics, mechatronics, and electrical work, with the aim of expanding Lapeer's pool of skilled young workers.



Planning for growth

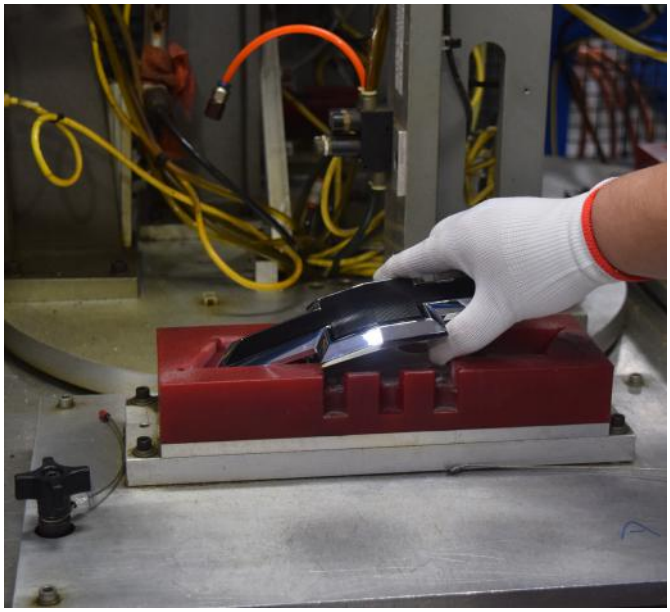
Going forward, Lapeer remains very much in growth mode. "We've got a business plan right now to increase our overall revenue... I'd like to see Lapeer at $60 to $100 million a year, which would be growth of three or four times," says Goad.

LP+P stands to achieve this goal by not only embracing new services and methods, but also by maintaining its status as a comprehensive, one-stop shop.

"There are a lot of injection molders out there and lots of people doing assembly," notes Goad. "Lapeer is unique in that it does everything underneath one roof. As a result, we've gained efficiencies that have made us competitive, and the new requirements and upgrading of our current chrome capability is key to the long-term viability of the company."

With these strategic investments, strengthened capabilities, and forward-thinking workforce initiatives, Lapeer Plating + Plastics is positioning itself for a future defined by both competitiveness and responsibility. By modernizing its chrome processes, retooling key equipment, and doubling down on efficiency and environmental stewardship, the company is not only aligning with the needs of major OEMs but also creating opportunities for new business in a rapidly shifting manufacturing landscape. Committed to cultivating skilled talent and operating as a true one-stop shop, LP+P is charting a path toward sustainable growth—one that reinforces its reputation for quality while ensuring it remains a trusted partner to customers for years to come. ■

Content Developed by Jamal Francis-Anderson



MAKING THE MACHINES that Run Industry

"The organization is trying to align itself around repeatable platforms."





GROTNES



Written by Nate Hendley

Over the past two years, Grotnes (pronounced 'Grote-ness') has launched a series of initiatives based around artificial intelligence (AI), customer service, and its product line. Headquartered in Niles, Michigan, with a heritage going back to the 19th century, the company manufactures integrated metal-forming cells and related equipment. Since we last spoke in December 2023 for ***Manufacturing in Focus***, the company has also relocated some operations and welcomed the first graduate of its apprenticeship program.

Arguably, the biggest new development has been the company's initiative of pre-engineered, configured-to-order (CTO) products to complement its customized solutions.

For Grotnes, CTOs offer multiple benefits including "faster delivery times, common platforms of parts, and spare parts that can be used across different models," explains Vice President, Jim Zielinski. That said, customer specs sometimes demand a tailored approach, which is why Grotnes will never abandon custom work. "The custom side will always be part of our business. It's our DNA... but the organization is trying to align itself around repeatable platforms," he says.

Grotnes continues to build machines for four main technologies: expanding, shrinking, roll forming, and spinning. Expanding processes involve shaping metal parts for pipe couplings, jet engine components, metal containers, and the like. Shrinking entails the exact opposite procedure and aims to reduce and shape parts for motor frames, conveyor rolls, and exhaust components. Roll forming involves bending hoops of metal, while spinning is a metalworking technique based on mechanical rotation. Closing tools, used to seal or close items such as pail lids or the tabs on large-size paint cans, are also becoming a growing category.

Monumental as the introduction of CTO solutions might be, there have been other big changes at Grotnes as well. For a start, the company is going through "a digital transformation" that entails "the leveraging of AI where it makes sense in the business," says President Mike Walker.

To this end, the company will soon launch Grotnes' AI assistant, a tool that could be compared to Amazon's AI-enabled, voice-led personal assistant Alexa, but for internal use only. "There's no gateway to the outside world. It's utilizing AI's ability to search our databases, our files, our drawings, our pdfs, to be able to respond quickly," explains Walker. "We're very careful right now to adopt it where it really adds value to the company... We've spent a significant amount of time really focusing on, 'How does it add value and help our customers at the end?'"

It is quite the leap for a firm that traces its roots to 1898 and a decision by one Charles Grotnes to open a machine works operation in Chicago. That business initially focused on manufacturing metal rings to hold barrel staves together. The company founder and namesake invented a time-saving machine to shape and stretch these metal rings to an appropriate size, and things took off from there.

At present, Grotnes serves the oil and gas, general industry, automotive, aerospace, rigid packaging, forging, and tanks and appliances sectors. The company uses the term 'tanks and appliances' to characterize its work for the power distribution and appliance markets with the tanks in question being metal storage containers.

"We do metal forming machines for large tanks that are typically used for isolation transformers, so there's the power distribution angle, and then, from the appliance standpoint, tanks for things such as water heaters, drums for washers and dryers, dishwashers, and things like that," Zielinski explains. Over the past year, aerospace and automotive generated the most business, a pattern that is likely to hold steady in 2026, he adds.

He has noticed something of a resurgence in the market for catalytic converters, the devices that reduce harmful exhaust emissions from combustion engines. Since large, commercial trucks would require huge electric batteries, thus limiting payloads, concerns about battery size have stalled the drive toward vehicle electrification in certain sectors. With gas and diesel-powered trucks still dominating, the demand for catalytic converters remains high. This trend is good news for Grotnes, which has been a pioneer in making machines that are used in catalytic converter production.

The company has maintained its ISO 9001:2015 certification and is gearing up to get certified when the new ISO standard (9001:2026) is released later this year. As befitting an ISO-certified company, quality assurance procedures here are rigorous. The company utilizes a coordinate measuring machine and other inspection equipment to ensure that all parts are shaped and sized correctly. Completed machines are subjected to rigorous factory acceptance testing procedures at the plant. If the machine achieves these benchmarks, it gets shipped to a customer, and the system is then put through site acceptance testing at the client's worksite to determine that everything is in perfect working order.

"ISO is a very big part of our business and really drives the quality in our organization. We embrace that in a big way, especially the continuous improvement side of it. Every employee in our organization is able to submit improvement suggestions regardless of their position in the company," says Walker.





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How Grotnes Accelerated Machine Builds with Integrated Engineering Partner - Sterling Engineering.

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Beyond these projects, Grotnes has relied on Sterling's flexible staffing support over the years to smooth capacity spikes and fill specialized roles when needed. We've supplied mechanical designers, controls engineers, electricians, drafters, and related technical talent on contract, contract-to-hire, and direct-hire bases, giving Grotnes a scalable workforce without long-term overhead while maintaining continuity on critical programs.

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The advent of a configured-to-order line is further proof of the company's commitment to continuous improvement, he continues. Offering pre-engineered solutions will enable Grotnes to "focus on a standard design and continue to refine it for our customers' needs and bring additional value by bringing costs down and benefits up," he explains.

Company officials are well aware that excellent equipment requires servicing and upkeep. As such, the team kicked off a preventative maintenance initiative called the Grotnes Service & Spares Club last year. Customers who join the club receive discounts on spare parts, labor, training, phone and remote support, and other maintenance measures. The overall aim is to keep client equipment in excellent condition.

"Every position in our company is really a skilled position."

At the time we last spoke, the company maintained sales and service branches in Monterrey, Mexico and Atlanta, Georgia. While the Mexican branch is still flourishing, the Atlanta operations have been relocated to Niles. This transition has drastically reduced turnaround times for some products; solutions that might have taken a month to produce and ship in Atlanta now take maybe 48 hours, according to Walker. The company continues to ship products around the world and works with European sales partners as well.

Grotnes also runs a facility called Formitt Metal Labs as well as an in-house machine shop. Formitt Labs does prototyping and feasibility testing for customers as well as research and development. Recent equipment purchases for the machine shop, meanwhile, include a lathe and a wire electric discharge machine. The company's five-year growth strategy includes the possibility of offering machine shop services as a separate business component for customers, a strategy that would



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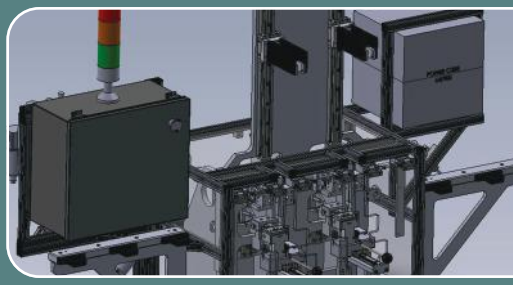
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build on already existing competencies. "We have customers who are not interested in a capital purchase and just ask us to do the production for them," notes Zielinski.

In terms of promotion, Grotnes regularly attends trade shows. Last year, the company took part in FABTECH USA in Chicago—the top conference for fabricating, finishing, welding, and metal forming in North America, as well as Fabtech Mexico in Monterrey, Mexico. It also showcased its metal forming skills at the 40th Space Symposium, a major aerospace event which took place in Colorado Springs, Colorado in April 2025. The company has revamped its website as well, with a view to adding updates regarding its configured-to-order (CTO) offerings.

All told, roughly 43 people work at Grotnes. Beyond the requisite education levels and skills, the company seeks applicants who can think on their feet and offer creative solutions. Personnel must be prepared to pivot in the face of challenges, think outside the box, and adapt to changing circumstances since "ours is a pretty fast-paced technology business," says Zielinski.

Current challenges include dealing with the rising cost of materials, due in part to tariffs imposed by the United States and other nations. That said, "The biggest challenge for us continues to be the ability to hire the right people, and secondary to that, finding them. Every position in our company is really a skilled position," states Walker.

To address this issue, the company instituted a four-year apprenticeship program which blends hands-on training with classroom learning. Apprentices attend evening classes at Lake Michigan College, which is based in Benton Harbour, Michigan and has a campus in Niles. The program just graduated its first apprentice, who specialized as an electrical technician, and apprenticeships are also available for machine builders and machinists. There are ongoing discussions about expanding the program to include engineering.

For a near-term forecast, Walker circles back to CTOs and AI. "Completing our journey on the CTOs is really critical to us," he shares. "It's not something that's going to happen overnight; it's not something that's quick, because it's got to be right."

As for artificial intelligence, "We've come up with some pretty interesting initiatives," he says. "Three years from now, I think we'll [have a lot] to talk about... We believe it's going to help us tremendously." ■

Content Developed by Will Stone | Designed by Natasha Crawford

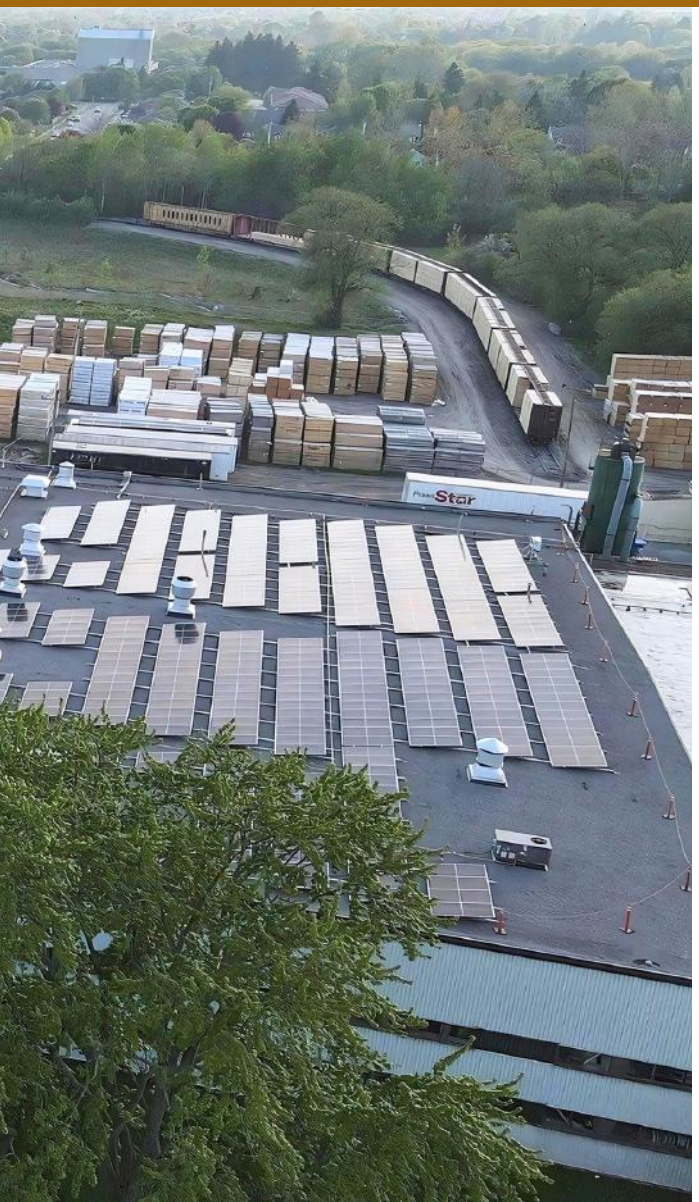

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INTO THE WOODS:

Sustainable Packaging through Forest Stewardship



Written by Allison Dempsey

Regarded as a pioneer and a green leader in providing wooden pallets and crates for a variety of shipping needs, CPS Wood Products serves both Canada and the United States, producing high-quality goods at reasonable costs. To maintain its market dominance ahead of smaller rivals, CPS invests millions in specialized machinery for quality goods, cutting-edge services, and affordable prices, all of which have contributed to the company's continued success.

Sustainability remains at the forefront of its daily operations. "Wood is the only significant construction material that is both natural and renewable," says CEO Shawn Hicks, who, with partner COO Dan Dunkley, strives to ensure the company's green message is upheld throughout all of its operations. "Our business can demonstrate the chain of custody from forest to customer, and our main suppliers hold certification from the FSC," he says.

- Buying from FSC-certified forests that use the world's best management practices allows for the protection of wildlife while ensuring reforestation of the land after harvest to help supply lumber for generations to come.

"We have the greenest packaging product available, and we fully utilize every piece of material."

"Trees and lumber utilization are a huge part of the carbon cycle story," Hicks tells us. "CPS buys salvaged lumber from the lumber mills—essentially leftover materials from the construction industry. We cut out the bad portions, areas where the lumber didn't make construction grade, and upgrade the rest in shorter lengths to make our customer quality products." CPS then shreds the waste and sells it to the farming community for animal bedding, and in turn, the chicken farmers sell their waste to mushroom farms to fully ensure the utilization of the lowest quality of lumber from the sawmills.

As for the company's pallets and crates, they yield a net 1.1 pounds of carbon trapped per board foot of lumber sold up to 1,000 miles from its factories.

"We have the greenest packaging product available, and we fully utilize every piece of material," explains Hicks. "For our waste outside of lumber, we send near zero waste to landfill—one 40-yard bin per month."

CPS also prides itself on its excellent relationships, both with its 500 employees and its numerous clients, who are treated like members of the CPS family and viewed as partners. "One of the cornerstones of CPS is our vendors," Hicks stresses. "We couldn't do what we do without them. For 40 years, the key area of our success has been taking care of suppliers well."

This means paying on time, taking discounts if offered, and ensuring the company is the lumber mills' first choice to sell to. Rail siding is key here, as CPS can accept lumber directly from the mill to its yards in both Cobourg and Martin, Tennessee. Boasting industrial-grade materials, CPS is the only customer of most mills with direct access to receive lumber by rail. "We work very hard to be the first-choice customer for our supply base," Hicks says.

Another vital aspect of the company's ongoing success is its dedication to automated operations, with its cut line being state-of-the-art and a key differentiator between CPS and its competition, resulting in the lowest cost of material ready for final assembly. "Our ongoing investment includes a $3 million assembly machine due to arrive in June of this year," adds Hicks.

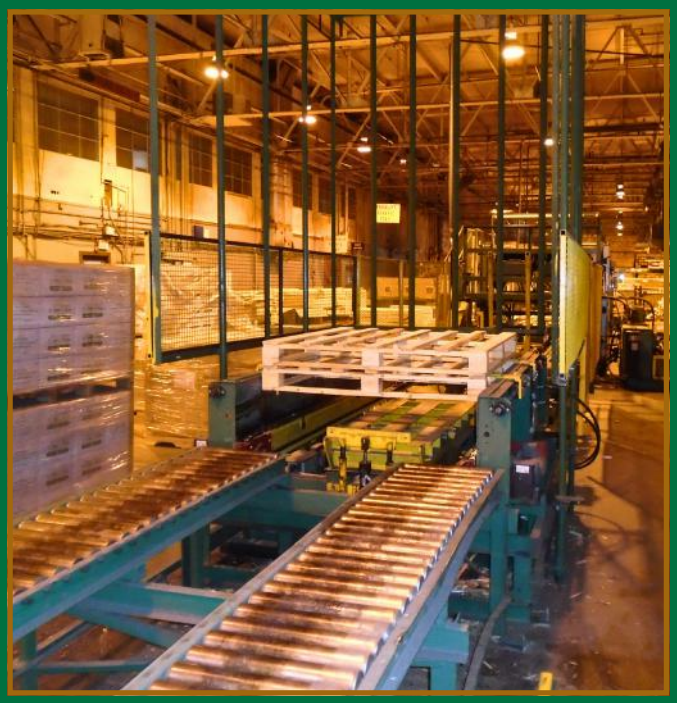


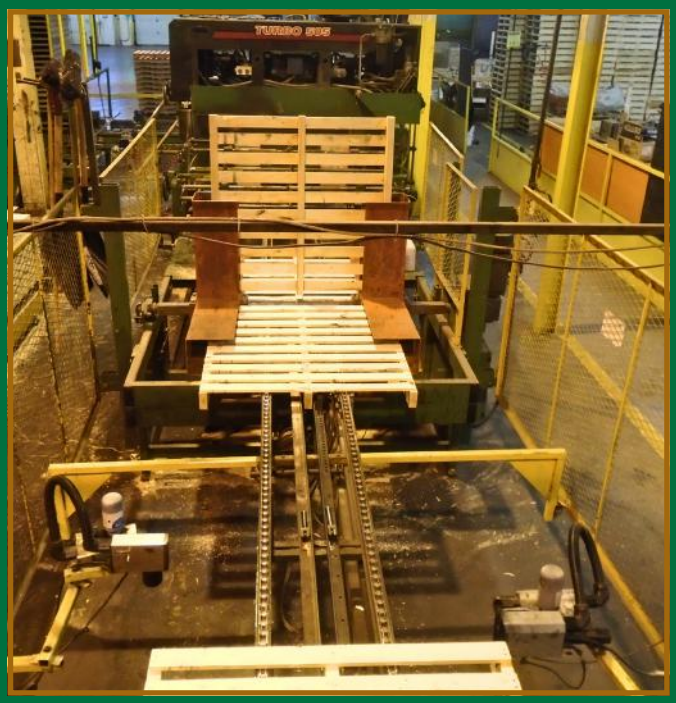


Utilizing new technology such as machine/robotic pallet assembly lines and high-volume output using industrial-grade automation—alongside new staff working on AI adaptation and implementation in the office and on the production floor—results in standardized quality across pallet and crate construction, and ensures CPS's position at the top of the industry.

Sustainability also means addressing the company's own carbon footprint. "Due to the cost of electricity in Ontario for many years now, our procurement team is always looking for ways to reduce energy costs across all locations," says Hicks. "Our forklifts have been converted from propane to electric on 75 percent of our fleet, along with a 1.305 GWH annual solar panel system installed in Cobourg." Renovations of CPS offices have also allowed the company to upgrade to efficient heat pumps as well as improved Insulation R-values, he adds.

This ongoing commitment to environmentalism and sustainability stems from an understanding of environmental, social, and corporate governance (ESG), a strategic framework for identifying, evaluating, and addressing organizational goals and activities, a company's carbon footprint and sustainability commitment, workplace culture, diversity and inclusion commitment, and overall ethos regarding corporate risks and practices. This organizational concept has grown in significance, particularly for socially conscious investors who wish to put money into businesses that share these same values. »





The three main pillars of ESG include environmental commitment, which covers all aspects of a business's dedication to sustainability and its effects on the environment, such as waste, energy use, carbon emissions and footprint, and environmental responsibility; social commitment, meaning the internal working culture of an organization, employee retention, diversity, satisfaction, and health and safety; and corporate governance, which includes compliance, internal corporate culture, pay ratios, business ethos, and leadership responsibility and openness as part of a corporation's commitment to corporate governance. Companies acknowledging a dedication to justice and equality in the workplace and the ability to adapt to changing laws and regulations are always of interest to investors, according to **CIO.com**.

As the effects of climate change worsen, companies' environmental initiatives will only become more crucial, and it is anticipated that businesses that use resources such as water, coal, oil, and power more wisely will do better in the future when those resources become scarce in some places. Additionally, a firm dedication to appropriate governance and compliance will be essential for maintaining a business's operations as more rules and regulations pertaining to technology, most notably General Data Protection Regulation (GDPR), come into effect.

CPS's commitment to sustainability and forest stewardship (the company also offers pallet recycle programs and repair programs) are just a few aspects that help set it apart, along with its rail siding on site, which lowers the cost of inbound materials, and state-of-the-art operations that allow staff to fully cut, resaw, notch, and stack over a railcar of lumber per shift.

"Our assembly lines are the best in the world and procured from all over the world," adds Hicks. "This results in customers placing an order and then not worrying about it because we deliver on time, every time, at a consistent quality that our customers expect."











Recent challenges for the company have included lumber and duty prices, which are "very much" top of mind in all of the lumber industry right now; duties and tariffs went up to 45 percent last August, and at the time, lumber costs in the U.S. were very low. "It was an easy pivot to just buy U.S. material in the U.S. and Canadian material in Canada," Hicks shares. "At the moment, the U.S. material costs are rising so fast that they're ahead of the cost of the Canadian material, and it's causing a lot of pivots."

The marketplace in general is being heavily impacted by tariffs, but CPS has operations and assets on both sides of the border, providing the company with a buffer that helps protect its clients as well, remaining "very well equipped" to supply customers regardless of tariffs.

Looking forward, CPS's commitment to the utilization of all materials will remain at the forefront. "We're literally selling $50,000 a month in animal bedding waste, where many companies are just giving that away or paying to get rid of it," Hicks explains. "We have an asset there that we're utilizing, but it's really just the automation. The railcar access and the automation give us the lowest cost of material ready for assembly versus every competitor in North America. That puts our customers in a good position from a cost perspective, but also puts us in a pole position on being able to compete."

In terms of retaining customers, CPS offers several customized programs, such as looking at clients' schedules and plans and supplying their needs proactively. "For our largest two customers, we operate in a replenishment of inventory scenario, not a purchase order. Traditionally, they look at what they need and place an order," Hicks says. "We go outside the box on that one, and we take care of them. Sometimes they don't know how we know their demand so well."

This level of quality of care is absolutely a priority for the company, Hicks stresses, along with embracing growth and maintaining a true devotion to sustainability. "We have always been committed to [sustainability] and will continue to further reduce our carbon footprint and greenhouse gas emissions," he assures, whether that's zero waste to landfill or maintaining an ethical supply chain through forest stewardship.

Social factors for CPS will focus on its workplace culture, diversity, community engagement, and human rights, as well as fostering a collective experience to keep longstanding employees satisfied and foster employee development.

Whether it's supporting community service and philanthropy or assisting customers with a wide range of issues and logistics that need solving to keep their business running smoothly, CPS's longstanding experience, knowledge, and skill can handle it all, Hicks says.

"We find an issue that needs solving, and we solve it." ■

Content Developed by Sana Murtaza | Designed by Natasha Crawford

ENGINEERING THE FUTURE



CANWAY
EQUIPMENT MFG. INC.
Material Handling Products



Written by Vicki Damon

For 40 years, Canway Equipment Mfg. Inc. has quietly built a reputation as one of Canada's most trusted manufacturers of rolling steel ladders and material handling solutions. From humble beginnings focused on hand trucks and ladders to a sophisticated operation producing highly engineered equipment focused on the end user, the company's journey mirrors the evolution of Canadian manufacturing itself, shaped by resilience and a relentless focus on improvement.

As Canway Equipment marks its 40th anniversary, the milestone offers a moment to reflect not only on where the company has been, but on how it continues to adapt and innovate in an increasingly complex manufacturing landscape.

"The company was started in 1986 by two gentlemen, Paul De Vries and Adrian Hovestad, and when they started, they were primarily involved in hand trucks and ladders; that was their main focus," says Roland Verhey, Director of Sales and Operations at Canway Equipment.

What began in a small facility has since grown into a modern manufacturing operation powered by advanced automation, precision engineering, and a deeply embedded culture of safety, quality, and customer responsiveness.

In its earliest years, the company operated from a modest location, producing equipment in small batches, often building "ones and twos" to meet immediate customer needs. By the 1990s, increasing demand and expanding product lines prompted a move to the company's current facility, a shift that laid the groundwork for decades of sustained growth.

A significant turning point came in 2001, when the business was acquired by its current owners. The transition brought new strategic direction and operational focus, enabling the company to scale its capabilities while preserving its core values of craftsmanship and reliability.

Verhey, who joined the company five years ago, has had a front-row seat to Canway's latest phase of expansion. He credits much of the company's evolution to continuous improvement across both design and production. "As the volume increased, it gave us opportunity to improve on the design of many of the different components and find efficiencies," he explains. "Once you start building 50 at a time, you can do things quite a bit more efficiently."



"This mindset, that growth should unlock smarter processes rather than simply more output, has driven many of Canway's most transformative investments."

This mindset, that growth should unlock smarter processes rather than simply more output, has driven many of Canway's most transformative investments. Among the most impactful upgrades in recent years was the installation of a fully integrated powder coating line, which fundamentally reshaped Canway's production flow.

Before the upgrade, the company relied on a wet-based enamel paint system that required large drying areas and careful handling to prevent surface damage. Products often spent up to 24 hours drying, tying up valuable floor space and introducing environmental and safety challenges. The new powder coating line changed everything. "More or less, the ladders would be hung on the line, they would get washed and rinsed and dried, painted and cured within about two hours," Verhey says. "As the products would come off the line, we could then assemble with wheels and casters, package it up, and roll it onto a truck."

Beyond dramatically shortening production cycles, the new line improved coating durability and reduced environmental impact. It also pushed design teams to rethink product geometry to accommodate hanging, drainage, and curing processes, a shift that elevated engineering precision across the board.

The result: a leaner, faster, safer, and more sustainable manufacturing workflow that positioned Canway for its next decade of growth.

If the powder coating line represented operational evolution, the pandemic-era supply chain crisis triggered a manufacturing revolution. Historically, Canway produced perforated ladder treads in-house, while diamond channel grating, a key ladder component, was sourced from China. When global shipping delays stretched lead times beyond a year, production bottlenecks forced leadership to rethink their dependency on offshore suppliers.

"We had containers of treads floating off the coast, waiting for availability at the port," Verhey recalls. "During that time, it really forced us to rethink our process of importing these treads."

The solution came in the form of a fully automated step manufacturing line, installed in 2024. The new system allows the company to produce both perforated and diamond channel treads entirely in-house, using locally sourced steel coils.

This strategic shift delivered multiple benefits: shorter lead times, improved quality control, supply chain resilience, and reduced exposure to global disruptions. It also marked a major technological leap, introducing advanced automation into a process previously dominated by aging equipment.

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At the heart of Canway's business lies its core product: rolling steel ladders, which account for roughly 70 percent of production. While ladders may appear simple, Canway's engineering approach reveals a sophisticated blend of durability and ergonomic design.

One key differentiator is the company's fully welded construction method. Unlike bolted systems that loosen over time, Canway ladders are welded into rigid, integrated structures that arrive fully assembled. "The main thing that differentiates us in the ladder world is that we feature all welded construction," says Verhey. "Over time, it's a more durable ladder because there's not all these fasteners that will slowly loosen. It's sturdier, more rigid, and easier to install." This design philosophy reduces on-site assembly and delivers a safer experience for end users, many of whom rely on Canway's ladders in demanding industrial environments.

Some of Canway's most successful products were not born in design labs, but in direct response to customer challenges. One standout example is the **Safeguard Ladder**, developed after a customer requested a safer platform solution that eliminated fall risk at the top of the ladder. Traditional chains and barriers proved cumbersome, so Canway engineered a double-gate system that automatically closes behind the user.

"Once you walk through the gate, it self-closes behind you. When you're on the top platform, you're safe, you can't fall down the ladder section," explains Verhey.

Originally created for a single client, the product quickly gained traction across multiple industries, ultimately becoming a full product line, a testament to the company's customer-driven development model.

Indeed, customization lies at the core of Canway's value proposition. Rather than forcing customers to adapt to standard equipment, the company engineers solutions around spatial constraints and safety requirements.

Cantilever ladders are a prime example. Designed for environments where obstructions prevent standard ladder placement, these models feature extended platforms balanced by counterweights at the base, enabling safe access beyond the ladder's footprint.

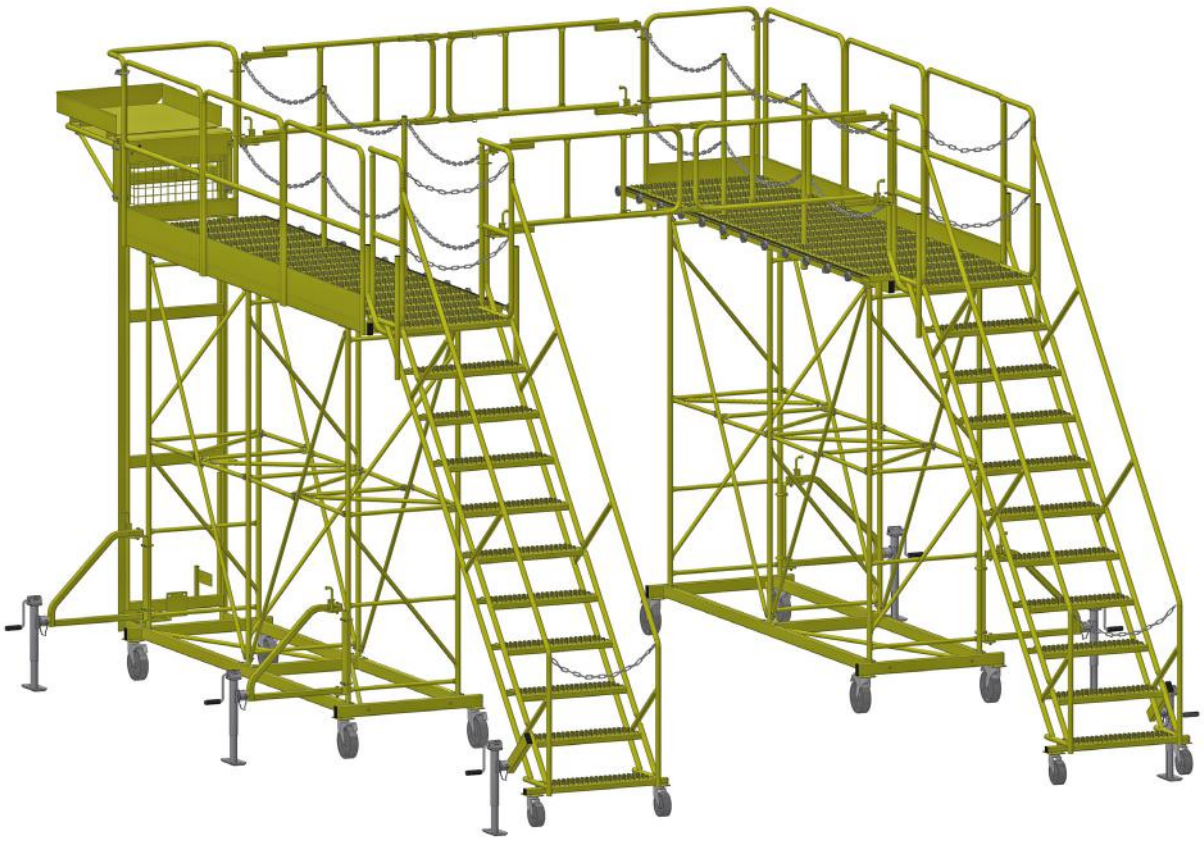




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Beyond ladders, Canway's customization expertise extends into material handling solutions, including lift baskets, engineered bins, service carts, and specialty platforms. These products, too, often emerge from customer requests that reveal broader market needs, and the company's in-house engineering and fabrication capabilities allow it to respond quickly and deliver highly tailored solutions without compromising quality or lead time.

For Canway, quality assurance is not an isolated checkpoint; it is embedded throughout the manufacturing process. Each ladder passes through multiple inspection stages, from component assembly to final packaging. Operators review parts at every station, while dedicated QA checks occur both before painting and after final assembly.

"Canway is embracing automation strategically—not to replace people, but to enhance efficiency and consistency."

"A ladder must ensure the safety of its user," Verhey emphasizes. "If there's a missing weld and a tread fails, that could be catastrophic. We take quality in that sense very, very seriously."

This rigorous approach ensures that every product leaving the facility meets stringent safety and durability standards, a non-negotiable expectation for customers in industries such as healthcare, manufacturing, construction, and energy.

Canway's success is anchored in its people. With a workforce of approximately 40 employees, 30 in manufacturing and the remainder in engineering, sales, and administration, the company operates on a culture of transparency and long-term development. Rather than simply filling positions, Canway invests in career pathways, aiming to cultivate today's operators into tomorrow's leaders.

"We're always looking at skilled labour and hiring for the future," says Verhey. "The people we hire today, someday we want them to be lead hands and eventually leaders." This philosophy extends into training programs and skills development, ensuring employees understand both current expectations and long-term opportunities.

As manufacturing technology evolves, Canway is embracing automation strategically—not to replace people, but to enhance efficiency and consistency. The automated step line marked a major leap forward, and future investments are already underway. Robotic welding stands out as the company's next major frontier, offering opportunities to increase throughput while reducing physical strain on skilled welders.

In parallel, plant safety upgrades, including modern shears and press brakes equipped with light curtains, reflect Canway's commitment to protecting its workforce through intelligent engineering. These investments signal a forward-looking mindset, positioning Canway to compete effectively in an increasingly automated global manufacturing environment.

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Of course, distribution plays a pivotal role in Canway's business model. With ladders that are large and costly to ship, the company relies on a trusted distributor network to provide nationwide reach and logistical efficiency. Rather than competing with its distributors through direct sales, Canway operates exclusively through these partnerships, a strategy rooted in trust and shared success.

Through distributor feedback, Canway also gains invaluable insights into customer needs and industry trends in real-world environments, which directly inform design improvements and product innovation.

Looking forward, Canway sees strong opportunity in expanding its material handling portfolio, particularly in service carts, dollies, and retail equipment, sectors where quality and customization remain in high demand. By leveraging its engineering capabilities and manufacturing expertise, the company aims to fill market gaps with domestically produced, high-quality solutions that outperform imported alternatives. At the same time, ongoing investments in automation and robotics will continue to enhance operational efficiency, enabling Canway to scale without sacrificing craftsmanship.

After 40 years, Canway Equipment Mfg. Inc. stands as a testament to what sustained innovation and operational discipline can achieve. From its origins in hand trucks and ladders to its present role as a technologically advanced manufacturer serving industries across Canada, the company's journey reflects a deeper commitment to safety, quality, and solving real-world challenges.

As Canway enters its fifth decade, the mission remains unchanged: build better products and continuously raise the standard for what Canadian manufacturing can deliver. ■

Content Developed by Steve Finn | Designed by Ebic Tristary



Painting a ladder



NEW PRODUCTS, NEW PARTNERSHIPS, & NEW HIGH-TECH SOLUTIONS

Written by Nate Hendley

RawMaxx Trailers, based in Las Cruces, New Mexico and Cuauhtémoc, Chihuahua, Mexico, manufactures top-of-the-line steel-built trailers and ancillary products. The company's dump, gooseneck, utility, step deck, and car hauler trailers, among other varieties, are sold through a widespread dealer network to companies in the construction, landscape, property maintenance, equipment rental, waste removal, automotive transport, excavation, and agricultural sectors.

"We build trailers for people who work hard. That's our mission. That's who we design for, that's who we respect," says Francis Wieler, head of Marketing.

Regardless of the industry served, the company's trailers are used by "working professionals who rely on this equipment daily," he adds.

RawMaxx

Products of the highest standard

RawMaxx has recently launched a variety of new trailers as well as an advanced solution called 3D Configurator. The latter enables prospective customers to create digital trailer designs on a computer screen based on their input, while the new trailers include the G7X Series, GDX Knight, DTX Deckover Tilt, and SGX models. Wieler describes the G7X Series as "an evolution of our GTX Series." While the GTX trailer is 102 inches wide, the G7X is narrower, at 83 inches. As such, the new G7X Series represents a more affordable option for clients looking for a trailer that is both maneuverable and compact.

Trailers in the G7X Series include the versatile Bumper Pull model, which is available in 20, 22, and 24-foot lengths and comes with a front toolbox, powder coat finish, and a gross vehicle weight rating of 14,000 pounds (the measure of the total weight of a fully-loaded trailer).

The G7X Gooseneck trailer is another model in the new G7X Series, also available in 20, 22, and 24-foot lengths with a 14,000-pound gross vehicle weight rating and front toolbox. The G7X Gooseneck trailer offers exceptional stability and is well-suited for heavy loads.

The company's GDX lineup consists of general duty dump trailers, a category popular with contractors. The new GDX Knight trailer features 10-cubic-yard capacity, 41-degree tilt angle, and a manual tarp system. The trailer offers durability and efficiency, and loading and unloading is a cinch. The GDX Knight is designed "for crews who consistently push heavier materials or higher volumes. It has structurally reinforced walls and increased capacity," says RawMaxx.

The DTX Deckover Tilt is also designed for handling heavy loads, with a GVWR of 14,000 pounds. This model boasts 17-degree tilt angle and a hoist-lift system fitted with a 5x16" cylinder for speedy and efficient loading and unloading. An upgraded version offers a gross vehicle weight rating of 20,000 pounds.

The SGX trailer, meanwhile, has a gravity-tilt design, an 8,000-pound gross vehicle weight rating, and is suitable for moving boom lifts, scissor lifts, and cherry pickers.

Some of these trailers feature the Milwaukee PACKOUT system, an innovative, modular storage setup comprising various chests, boxes, and cooler units for heavy-duty storage. Milwaukee PACKOUT "gives operators an organized space and secured tool storage placement under the trailer directly."







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Quality from the start

RawMaxx was founded in Mexico in 2017 with a focus from the start on manufacturing heavy-duty steel trailers. "While the product line has expanded significantly, the core mission has remained the same: build strong, dependable trailers."

Manufacturing and design work is all performed in-house aside from a few components such as axles and hydraulic systems, which are obtained from trusted outside suppliers. The company uses CNC laser cutters, press brakes, plasma cutters, and other machinery to self-perform its engineering, fabrication, welding, assembly, and finishing. "We maintain control over our production process to ensure consistency in quality."

The company sells its products through an extensive dealer network—most based in the United States, with a few in Canada. While clients cannot buy directly, RawMaxx sees this as an advantage.

"We do not sell to end users," he says. "This allows us to focus on manufacturing products and development. It also helps keep the price lower, because we can sell a full load to a dealer, which ensures that the customer is going to get a better price. If somebody from New York buys a trailer from us directly, the cost of shipping that one trailer is going to be more than if we ship seven or eight trailers on one load."



People-powered service

At present, the company employs 600 people, an increase of about 40 from this time last year. The spike in personnel can be attributed to increased demand for the products in the United States.

When it comes to new hires, RawMaxx looks for people with a strong work ethic, a willingness to learn, a team mindset, a sense of accountability, and an alignment with the company's values of integrity, hard work, expertise, innovation, and adaptability. "The culture overall here is blue collar, performance-driven, with a focus on continuous improvement and respect for the craft."

The company prides itself on being "non-corporate," he adds. There is no rigid company bureaucracy; issues are dealt with right away, and do not require months of meetings, memos, and analysis to address.

Customer support is offered via the company's nationwide dealer network, and to this end, RawMaxx offers spare parts, replacement parts, service guidance, technical assistance, product updates, and warranties including five years for axles, three years for structural issues, and one year for paint. "If a customer has an issue, we work directly with the dealer to ensure that it's resolved quickly and properly."

In addition to its customers, the company believes in supporting charities and its workforce, with charitable endeavors including funding for a local orphanage and an overarching commitment to its nearby communities. And the RawMaxx team is happy to help fellow staff members through rough patches with financial aid or other forms of assistance. Staff members "will always stand together and support each other in times of need or when surrounding communities are in need. The entire team will rally and organize food, clothing, and financial drives. It's part of the culture here at RawMaxx."

Safety, of course, is also central to the company culture. Workers receive comprehensive safety training with established protocols in case of accidents or mishaps. Personal protective equipment including helmets, work boots, and googles, are mandatory and paid for by the company.





Making customization easy

RawMaxx has also forged a partnership with prominent automotive celebrity Dave 'Heavy D' Sparks, who co-starred on the reality show ***Diesel Brothers*** on the Discovery Channel. Heavy D shouts out the company's innovative design, superior components, focus on safety, excellent customer service, wide array of products, customization, and heavy-duty construction in his glowing testimonial on the company website. Heavy D also participated in the launch of 3D Configurator at the North American Trailer Dealers Association (NATDA) 2025 show in Nashville, Tennessee and praises the solution in a company **YouTube video**.

3D Configurator, as mentioned, allows potential customers to view digital trailer models based on their selections regarding size, specifications, options, colors, and models. Customer input is used to add or remove details, and the ensuing image can be viewed from multiple angles, giving clients a clear sense of what they are buying. Customers "can see where every dollar is going. They can see visually what the trailer is going to look like," states RawMaxx, adding that the 3D Configurator "is a tool to give as much confidence to the buyer as possible."

The solution has earned the company industry kudos and took first place in a competition for 'Best in Show for Services & Software' at last year's NATDA conference.

Facing challenges

While optimistic, RawMaxx is well aware of certain challenges facing the company, including volatility in the trailer sector. Underlying this volatility are rising material costs, supply chain changes, and regulatory developments. RawMaxx addresses these issues "through strong dealer and supplier relationships, in-house manufacturing control, operational efficiency, and strategic pricing adjustments. We focus on stability and long-term relationships rather than short-term reaction."

Going forward, the company has plenty of new ideas, enhancements, and product concepts in the pipeline. "There's always new stuff that comes out. We have a few engineers who consistently look at the market, look at what the needs are out there and what people are asking for. It can take months or years to refine something before we do release a new type of trailer."

Over the next few years, RawMaxx also hopes to see the company strengthen its dealer network even further, continue to innovate on the digital front, and maintain its reputation for durability and integrity.

"Our goal is sustainable growth, while protecting product quality and brand reputation. That's very important. There are a lot of people who depend on RawMaxx to make a living, whether it's the people building the trailers or the people who depend on them to get their job done." RawMaxx plans to be there, serving all of these people with quality, innovation, and integrity, for the long haul. ■

Content Developed by Katherine MacDonald | Designed by Natasha Crawford



ENGINEERING ACCESSIBILITY & INDEPENDENCE

Humanware

an EssilorLuxottica company





Explore 12

In Drummondville, Quebec, a manufacturing operation is quietly reshaping what accessibility means for people who are blind or visually impaired—from braille devices and tactile displays to wearable smart technologies and magnification solutions.

Written by Vicki Damon

By any measure, HumanWare is a company built not just on technology, but on empathy. Founded in 1988 as a small startup in Quebec, HumanWare began with a bold and deeply human mission: to create independence and accessibility for people who are blind or have low vision. Nearly four decades later, that mission continues to guide every product decision and manufacturing process, now on a global scale.

"HumanWare has grown into a global leader in assistive technology."

From its headquarters and production facility in Drummondville, Quebec, to research and development teams in the Montreal area, sales teams across the United States, offices in the United Kingdom, and partnerships spanning Europe, Australia, and beyond, HumanWare has grown into a global leader in assistive technology. Yet, despite its expansion and its integration into the EssilorLuxottica group, the company remains deeply rooted in the same values that shaped its earliest days: innovation, agility, quality, and above all, human impact.





Addressing real-world needs

"Everything we do is centered around independence and accessibility," says Marc Jiona, Senior Director of Operations at HumanWare. "Our products are not conveniences; they are lifelines. People rely on them every day to work, study, navigate their environment, and live independently. That responsibility shapes everything we do."

From its inception, HumanWare has focused on addressing the real-world challenges faced by individuals with visual impairments and sight loss. In its early years, this mission required developing solutions from the ground up, often before the necessary technology even existed. Nearly every component of a HumanWare product—tools, platforms, hardware, and software—had to be created in-house, demanding exceptional creativity and resourcefulness from the team to design, prototype, and deliver functional, reliable solutions.

That pioneering spirit remains central to the company's DNA. While HumanWare now benefits from the resources and global reach of EssilorLuxottica, its leadership team works deliberately to preserve the agility and innovation of its startup roots.

"Our challenge today is to maintain that speed and flexibility," says Jiona. "We want to keep moving fast, responding quickly to needs, and staying deeply connected to our users."

This connection is more than philosophical. Roughly nine to ten percent of HumanWare's global workforce lives with a visual impairment, including product testers and customer service representatives. Their lived experience ensures that products are not merely functional, but intuitive and practical. "They help us build better," says Myriam Champagne, Director of Marketing. "They understand firsthand what works, what doesn't, and what could make daily life easier."

A different way of doing business

HumanWare's Drummondville facility is where ideas become reality. Home to approximately 40 employees, the site houses production, quality control, technical support, and repair operations. Additional R&D teams in the Montreal area expand the company's engineering capacity, bringing the total Quebec workforce to nearly 75. Globally, HumanWare employs approximately 150 people, supported by regional teams in the United States, United Kingdom, Australia, and Europe.

What sets the manufacturing operation apart is not just technical excellence, but emotional investment. "Every single device that leaves this building will change someone's life," says Jiona. "That creates pride. People here know they're doing something meaningful," and this sense of purpose drives exceptional attention to detail. The company's products undergo extensive durability testing, including extreme temperature exposure and drop tests designed to reflect real-world conditions.

"Now students can scroll through digital textbooks, read equations, feel graphs, and explore maps, all in one device, the Monarch."

Even the materials are thoughtfully chosen, combining durability with easy cleanability to ensure both hygiene and lasting performance. Designs are optimized for everyday use across a wide range of environments and conditions around the world, ensuring reliability wherever the device is used. Some video magnifier models experience return rates as low as two percent, an extraordinary figure in consumer electronics, particularly in a category where products endure heavy daily use.

Emerging innovation

Among HumanWare's most revolutionary products is the tactile and multi-line braille tablet, **Monarch**, a device that has fundamentally transformed access to education, information, and professional opportunity for blind individuals.

Named one of ***TIME Magazine's* Best Inventions of 2025**, the Monarch is the world's first multi-line tactile display capable of rendering both text and graphics in real time. "It's like an iPad for someone who is blind—but with the ability to dynamically render tactile text and graphics in real time," says Jiona. For blind students, this represents a monumental leap forward.

In traditional learning environments, braille textbooks can be on average ten times thicker than standard books. Locating chapters and navigating complex subjects becomes an enormous logistical burden. "The Monarch removes that barrier," says Champagne. "Now students can scroll through digital textbooks, read equations, feel graphs, and explore maps, all in one device."

The implications are enormous. Mathematics, geography, physics, and data-driven disciplines suddenly become far more accessible, and students no longer face delays waiting for specialized embossed materials. Learning becomes immediate and interactive.

The Monarch's impact has been especially profound in educational settings, supported by HumanWare's partnership with



the American Printing House for the Blind (APH). Through government funding programs in the United States, eligible students can receive advanced assistive technology, ensuring that financial limitations do not restrict access.

One such student, Emma Olech, who is homeschooled, describes the impact: "I think the most beneficial part of using the Monarch is being able to easily access the tactile graphics... it is much easier than flipping through unwieldy hardcopy books." These experiences reaffirm why HumanWare continues to invest heavily in innovation, even when product development timelines stretch over years.



Support at every step

The company's value proposition extends well beyond hardware development, encompassing a fully integrated support ecosystem designed to optimize user performance and long-term reliability. Each product launch is supported by comprehensive technical documentation engineered for compatibility with screen-reader technologies, detailed audio-based instruction systems, and structured video-based tutorials, including guided installation and setup protocols.

These resources are reinforced by direct access to trained customer service specialists who provide real-time troubleshooting and product guidance. In parallel, HumanWare deploys dedicated field trainers to educational institutions and partner organizations to deliver hands-on demonstrations, structured onboarding, and in-situ technical support, ensuring effective deployment across diverse user environments.

"We work extremely hard to keep costs as low as possible. Accessibility must include affordability."

"We want people to feel supported at every step," says Champagne. "From the moment they open the box, they should feel confident."

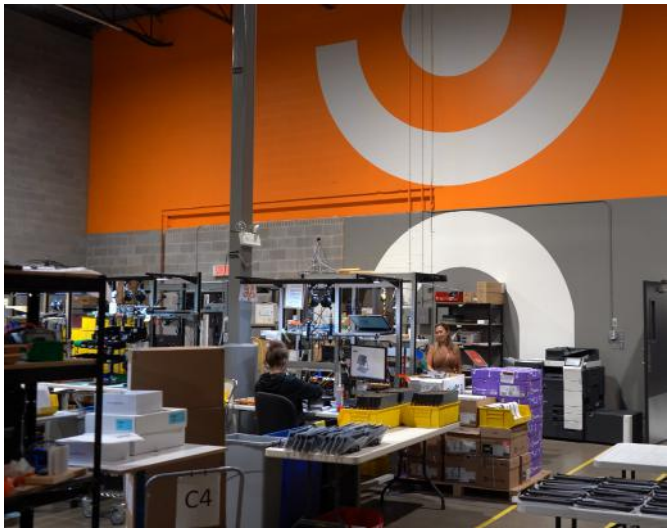
Of course, customer service is another pillar of the company's philosophy. Unlike some technology companies that rely heavily on automated systems, HumanWare ensures that customers speak directly to trained professionals, many of whom are visually impaired themselves. "When someone calls, they talk to a real person," says Jiona. "And often that person understands their challenges personally." This approach fosters trust and a deep sense of partnership between HumanWare and its users.

A commitment to quality

Underlying every HumanWare product is a rigorously structured and continuously audited quality management system designed to meet the highest international standards. The company operates under ISO 9001:2015 certification and complies fully with the stringent requirements of the European Medical Device Regulations (MDR), ensuring consistent product quality and regulatory compliance across global markets. And in parallel, HumanWare's designation as a Certified B Corporation reflects its commitment to responsible business practices, encompassing environmental stewardship, ethical governance, workforce wellbeing, and social impact. This commitment has also been recognized externally, most notably through its inclusion in the ***Forbes* Accessibility** 100 in Spring 2025, highlighting the company's leadership in advancing inclusive innovation.

Collectively, these certifications and recognitions underscore not only HumanWare's engineering and manufacturing excellence, but also its broader responsibility to operate with integrity across its entire value chain. The company's B Corp certification underscores its commitment to balancing profit with purpose, ensuring positive outcomes for employees, customers, communities, and the planet.

In addition to its collaboration with the American Printing House for the Blind (APH), the company works closely with organizations such as the Canadian National Institute for the Blind (CNIB), the Royal National Institute of Blind People (RNIB) in the United Kingdom, Vision Australia, ONCE in Spain, and multiple United Nations–supported accessibility initiatives. These partnerships serve as continuous feedback channels, enabling HumanWare to refine product functionality, anticipate emerging user requirements, and validate new technological concepts through real-world application. "These organizations give us invaluable feedback," says Champagne. "They help us refine products and validate new ideas."





This structured global feedback loop ensures that HumanWare's solutions are informed by educational and operational environments, resulting in technologies that are both globally scalable and locally relevant.

For HumanWare, three principles guide manufacturing and operations: quality, availability, and cost. Quality remains paramount, as any failure could disrupt a person's independence, safety, or livelihood. Availability ensures that devices reach users when they need them, even during unexpected demand surges. Cost, meanwhile, remains an ongoing challenge in a niche market. With relatively low production volumes compared to consumer electronics, maintaining affordability requires continuous optimization without sacrificing quality. "We work extremely hard to keep costs as low as possible," says Jiona. "Accessibility must include affordability."

As wearable technology and artificial intelligence continue to advance, HumanWare is positioning itself at the forefront of the next generation of accessibility solutions. Through its integration with EssilorLuxottica, the company collaborates closely with teams developing smart eyewear, including Ray-Ban **Meta glasses**, to explore new ways to combine hardware, AI, audio, and spatial awareness into seamless assistive tools.

And beyond education and employment, HumanWare devices also dramatically improve daily living for individuals with age-related vision loss. One veteran in the United Kingdom, living with wet age-related macular degeneration (AMD) while awaiting cataract surgery, described his experience using HumanWare's Explore 12 video magnifier:

"As a wet AMD patient awaiting cataract surgery, optical magnifiers were of little use to me. However, after trying the Explore 12, I was amazed at what I could read compared to prescription glasses alone. The white-on-black feature is my favourite because it soothes the effects of my photophobia, and I love the device's ease of use and portability. It makes my life 1000 times better."

For many users, HumanWare technology restores confidence and independence, allowing them to continue living at home, working, and engaging socially. Rather than offering a single solution, HumanWare envisions a modular ecosystem: portable magnifiers, tactile displays, wearable navigation aids, AI-powered reading tools, and smart glasses that work together. "There is no one-size-fits-all," explains Champagne. "People want options. They want technology that adapts to their lifestyle."

Powered by purpose

Ask HumanWare employees what motivates them, and a common theme emerges: purpose. "The mission is powerful," says Jiona. "It gives meaning to everything we do." From engineers and assemblers to marketers and service technicians, the team understands that their work has real-world consequences, and this shared sense of impact creates deep loyalty and pride.

"It's not just manufacturing," Champagne adds. "It's about leveling the playing field, from early childhood education to career development and aging with independence."

In an evolving technological landscape, HumanWare remains firmly focused on human-centered innovation. Artificial intelligence, smart wearables, real-time tactile displays, and multi-sensory interfaces will increasingly converge, opening new possibilities for accessibility. Yet, amid this rapid change, HumanWare remains grounded in a simple philosophy: "Technology should serve humanity," says Champagne. "Not the other way around."

From a small Quebec startup to a global leader in accessibility innovation, HumanWare continues to redefine what inclusive manufacturing can achieve, proving that when engineering meets empathy, extraordinary things happen. ■

Content Developed by Sana Murtaza | Designed by Isaac McWhinnie



SUPPORTING OEMS FROM DESIGN TO PRODUCTION



Written by Vicki Damon

In industries where machinery operates under extreme conditions, reliability and performance are not optional, they are essential. From mining operations to forestry equipment and power generation systems, the machines powering these sectors must withstand demanding environments while meeting evolving regulatory and safety expectations.

Stronix positions itself at the intersection of engineering, manufacturing, and supply chain support to help original equipment manufacturers (OEMs) meet those demands. The company works with equipment manufacturers from the earliest design stages through prototyping and production, delivering engineered components that improve performance, safety, and compliance.



STRONIX™

With roots in the mining sector and a growing focus on broader heavy-duty markets, Stronix brings a collaborative approach to product development. Its team works closely with OEM partners to solve engineering challenges while providing the manufacturing capabilities required to turn concepts into production-ready components.

Mining environments demand durable equipment capable of operating under exposure to extreme temperatures and challenging terrain. Over time, the team behind Stronix develops specialized knowledge in designing components that meet those requirements.

That expertise forms the foundation for the company's current business model. Rather than focusing exclusively on mining operations, Stronix works directly with OEMs that manufacture heavy-duty machinery across several industries.

"We realized that the solutions we provide can benefit more than mining," Aleeya Laureola, Marketing Manager at Stronix, explains. "If we work with the companies that actually manufacture the machines and help them enhance their products, it improves the industry overall."

Today, Stronix partners with OEMs producing equipment used in mining, forestry, agriculture, and power generation, industries where durability and operational reliability remain critical.

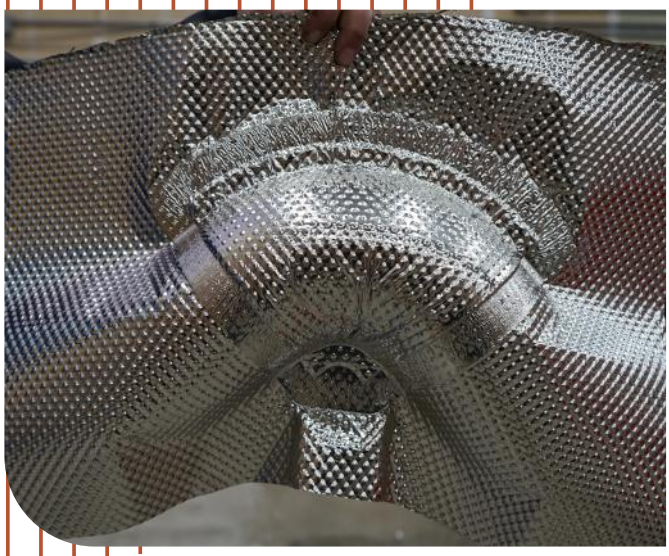
One of the primary advantages Stronix offers its clients is the ability to address multiple engineering challenges through a single partner. In many cases, OEM engineering teams must coordinate with several different suppliers to redesign or improve components such as exhaust systems or thermal insulation blankets, and that process can add complexity and slow product development timelines.

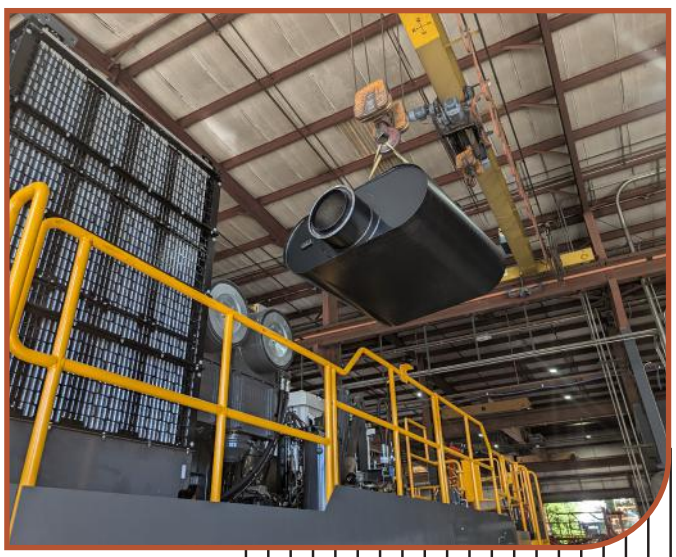
Instead of working with multiple vendors, an OEM can collaborate directly with Stronix to address several design requirements simultaneously. From there, the company works alongside the OEM to develop an integrated solution. That collaboration often begins long before physical prototypes are built.

Stronix engineers frequently engage with customers during the early design phase, reviewing concepts and refining designs through detailed discussions and simulations. By addressing potential challenges early, Stronix helps OEM partners shorten









their development cycles while minimizing costly revisions later in the process.

The company's production environment reflects the customized nature of its work. Unlike facilities dedicated to high-volume manufacturing of identical parts, Stronix operates in a high-mix environment where many components are tailored to specific applications.

A typical project begins with a detailed understanding of the customer's needs and operating conditions. From there, engineers develop designs and production teams prepare specialized tooling, such as jigs, to ensure consistent fabrication and assembly. The manufacturing floor includes several specialized workstations supporting key processes such as fabrication, welding, thermal blanket production, and product testing.

Throughout production, communication with the client remains a central part of the workflow. "We test, we update them at every stage, and we show them how the component looks as it moves through fabrication," Laureola explains. "That way they are involved throughout the process rather than only seeing the final product." This approach allows feedback to be incorporated in real time, helping to reduce delays and improving the overall efficiency of product development.

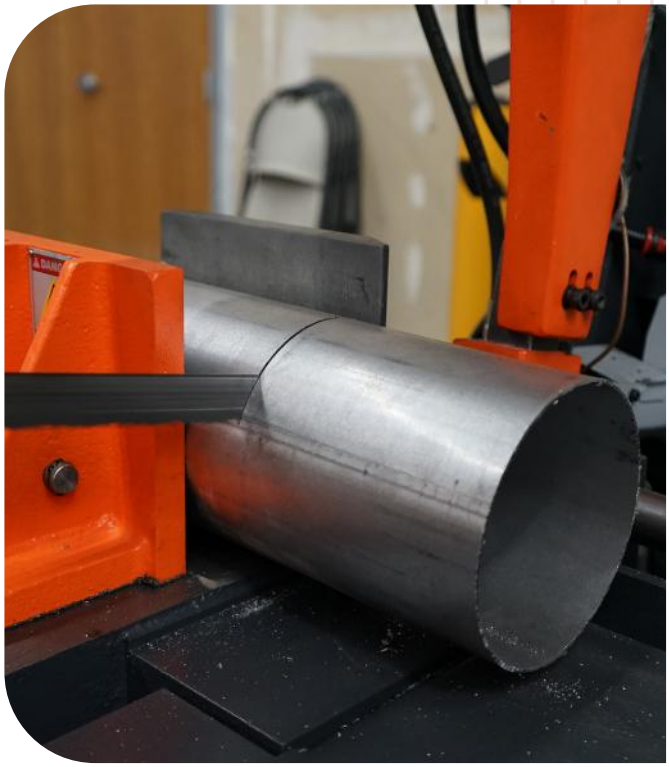
In heavy-duty applications, component failure can have serious consequences for both safety and productivity, and as a result, quality assurance remains a critical part of Stronix's manufacturing philosophy. According to Laureola, quality begins with ensuring that the engineering and production teams fully understand the purpose behind each design. "Quality starts with understanding the 'why' behind what we are doing," she says.

Many members of the Stronix team bring firsthand experience working in heavy-duty environments, and that practical perspective informs the design and manufacturing process. When engineers and technicians understand the conditions a component will face in the field, they are better positioned to identify potential improvements during production.

Automation also plays an important role in maintaining consistency, and Stronix incorporates robotic welding where possible to ensure reliable weld quality across components. The company also conducts pressure testing to verify the integrity of exhaust systems and other assemblies. Before a product leaves the facility, detailed inspections, including photographic documentation, confirm that it meets both internal quality standards and customer expectations.









Stronix works with OEMs throughout the entire lifecycle of product development. That process typically begins with collaborative engineering discussions, followed by design refinement and prototype development. Once a prototype is approved, the company can support low-volume production runs before scaling manufacturing to meet broader demand.

Low minimum order quantities (MOQs) are an important part of this process. Many manufacturers require customers to commit to large production orders even during early testing phases, but Stronix takes a more flexible approach that allows OEM partners to validate designs before committing to full-scale manufacturing. "We are happy to work with OEMs to test prototypes in the field before moving to larger volumes," Laureola says. This flexibility helps customers refine designs based on real-world performance while minimizing financial risk.

While Stronix built its early expertise in the mining sector, the company now sees significant opportunity in other heavy-duty industries, with forestry and power generation representing key areas of growth. Each of these sectors relies on machinery that must perform reliably under demanding conditions, making them natural extensions of the company's engineering capabilities.

One area where Stronix hopes to expand awareness is sound attenuation. In regions such as Australia, noise regulation already plays an important role in mining operations, particularly when sites operate near residential communities. Through its experience in those markets, Stronix can develop solutions that reduce machine noise while maintaining performance.

Although noise regulation is less prominent in North America, Laureola believes the issue deserves greater attention. "Noise fatigue is real," she says. "Reducing noise improves safety and communication among workers." By introducing these solutions to North American OEMs, Stronix hopes to encourage manufacturers to address noise reduction proactively rather than waiting for regulatory requirements.

Of course, environmental regulations also continue to shape the design of heavy-duty equipment, and to this end, Stronix specializes in exhaust systems and after-treatment technologies that help OEMs meet increasingly stringent emissions standards. For instance, modern machinery must comply with standards such as Tier 4 and Stage V emissions requirements. However, many manufacturers still operate or maintain equipment originally designed under earlier regulatory frameworks. The company helps bridge that gap by integrating updated emission systems into existing designs. "We can work with existing machinery drawings and incorporate modern after-treatment systems," Laureola explains. By upgrading older equipment designs rather than replacing them entirely, manufacturers can extend the lifespan of existing product lines while meeting current environmental standards.

In addition to custom engineering work, Stronix also provides contract manufacturing services for OEM customers. If a manufacturer encounters supply chain disruptions or production delays with existing suppliers, Stronix can step in to produce components based on the customer's drawings. This flexibility allows OEMs to maintain production schedules even when unexpected challenges arise.

The company also offers consignment stocking arrangements that allow Stronix to hold inventory on behalf of customers. These arrangements help OEMs manage space limitations and respond quickly to fluctuations in demand. "As a diversified supplier, we can help customers reduce risk by being another reliable option," Laureola says.

Two areas where Stronix especially stands out are metal fabrication for exhaust systems and the design of thermal protection solutions. The company produces large-diameter exhaust pipes and complex metal components used in heavy-duty equipment. These systems often require intricate engineering to maintain airflow efficiency while accommodating the physical constraints of the machinery. In some cases, redesigning an exhaust system involves repositioning the entire assembly.

In addition to metal fabrication, Stronix manufactures thermal covers and engine wraps designed to manage heat within heavy-duty equipment. These thermal blankets help protect surrounding components, reduce fire risk, and prevent burns for operators and maintenance personnel. By tailoring materials and designs to specific machines, Stronix can ensure the thermal protection systems perform reliably under demanding operating conditions.

For all the technical complexity of its work, Stronix emphasizes the importance of relationships. Working closely with OEM engineers, product managers, and production teams helps build trust and ensure that solutions align with real-world operational needs, a collaborative mindset that proves particularly valuable in industries where equipment designs are complex and highly specialized.

Stronix's internal culture also reflects the collaborative approach the team brings to customer relationships. The company operates around four core values: responsiveness, ensuring customers receive timely support throughout the development process; quality first, maintaining strict standards for design and manufacturing; drive, pushing the organization to continuously improve its capabilities; and transparency, helping build trust with customers and partners. Together, these principles guide both day-to-day operations and long-term strategy.

As the heavy-duty equipment industry evolves, manufacturers face increasing pressure to balance performance, safety, and environmental responsibility, and Stronix aims to support that transition by continuing to invest in engineering expertise and automation technologies that enhance responsiveness and scalability. Moving forward, the company also plans to strengthen its presence across industries where durable equipment and custom engineering solutions are essential.

For Laureola, the opportunity lies in helping OEM partners tackle complex challenges while delivering practical solutions that perform reliably in the field. "We are not focused on building parts in massive volume," she says. "Our focus is on supporting complex applications where customization, durability, and engineering input really matter."

By combining robust technical knowledge with collaborative development and flexible manufacturing, Stronix continues to position itself as a strategic partner for OEMs navigating the demanding world of heavy-duty machinery. ■

Content Developed by Sana Murtaza | Designed by Natasha Crawford



A VALUABLE MERGER

ALLOWS ENGINEERING TO SHINE



Written by William Young

For over half a century, Elcon Precision LLC has served the Bay Area of California and beyond in making its services of brazing, metallization, coating, etching, and more available to a wide variety of end customers. That has hardly changed in the last few years, but the company's abilities and role in the metals industry have been enhanced and expanded upon thanks to a development that kicked off in 2020.

The decade started on a hot note for Elcon with the official announcement of its purchase by global manufacturing network The Partner Companies (TPC). Although the purchase was made in 2011, the sale was not made public until 2020. Since then, Elcon has become even more involved with TPC and its more recent acquisitions, all of which have brought more capabilities that can be offered to customers. These acquisitions have included L&T Precision; Photofabrication Engineering Inc.; Pinnacle Precision; United Plastics Group; and Precision Eforming, last year.







All the capabilities from these businesses added to the TPC suite, "integrating well with what Elcon does for its clients and positioning it as a one-stop shop among metal manufacturers," says Elcon Data Analyst Nikki Do.

Currently, TPC sports 11 specialty manufacturers including Elcon in its holdings, with a physical presence across the United States and sites around the world in locations like China, Mexico, and Wales. It has also received new funding from investors to the tune of hundreds of millions of dollars from businesses like Huntington Bank, and work is still ongoing to continue raising even more capital.

"Our value is our engineering team."

Elcon itself recently completed a semi-merger with another operation in its Bay Area home. Only 10 minutes down the road, the new manufacturing site grants the team more edging capacity and other capabilities. This includes an increased capacity in its factory metal edging line and in refractory metals like tungsten and titanium, elements that are in demand by many of the sectors with which Elcon works closely and that require high-temperature operations.



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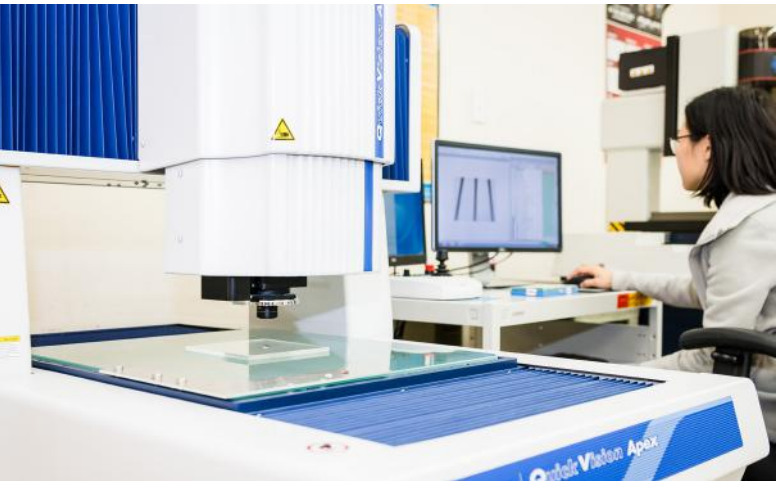
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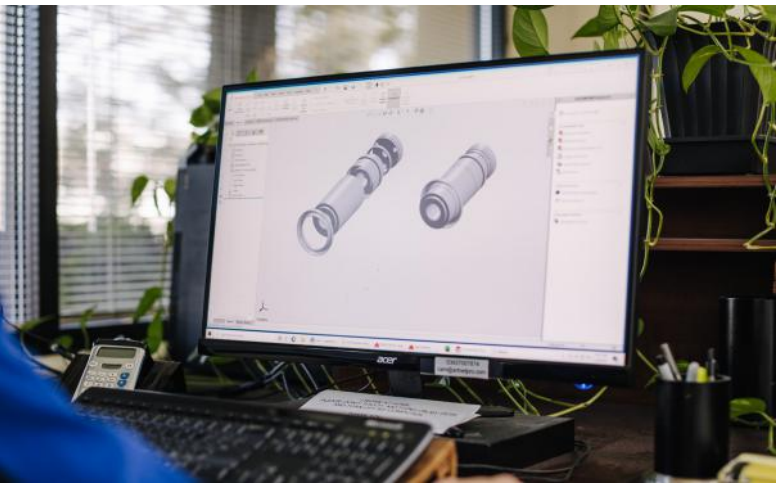
In the couple of years since we last spoke, Elcon has added diffusion bonding to its services and more people to its team in terms of mulling and processing engineers. “Our value is our engineering team,” Do says. The company’s clients, which include medium-sized and start-up companies, often come to it with a tough engineering challenge in terms of manufacturing, such as creating a product from an obscure, advanced material. In these cases, its engineers have the knowledge to deliver while also being able to inform customers what can and cannot work, making the process efficient and informed.

As things are now, Elcon continues to see great demand from the aerospace and defense sectors for both of its major product lines. With its ceramic metallization and brazing services, the company can provide the sophisticated ceramics that go into missiles, fighter jets, or hyper-sonic applications. Among its specialty products are control grids for waxing wave tubes used for radar application in defense contexts; vacuum coaxial switches for radar systems which are often used with missile guidance; and radio frequency shielding used in planes and jets.

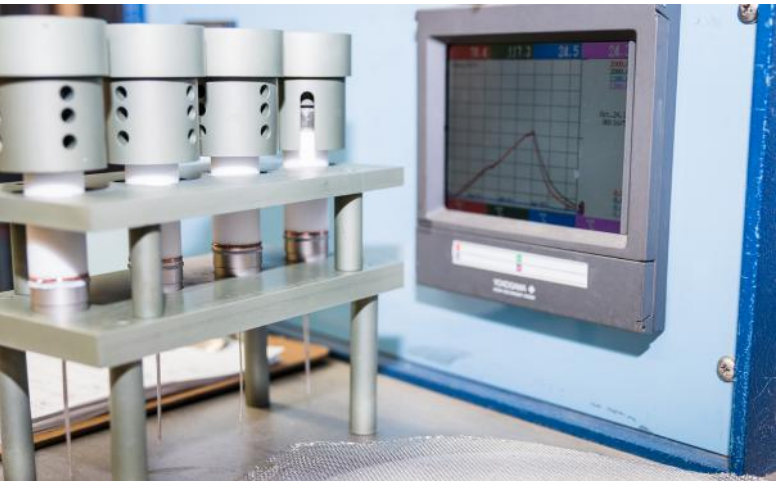
The company is also active in the medical industry—many of its parts are used in electrosurgical instruments in sports medicine as well as electron guns for medical imaging equipment and oncology treatment devices. »











These two specific fields, however, are not the only areas where Elcon excels. Do tells us that some customers are in the photonics industry, for which Elcon makes parts for analytical instruments. Headway is also being made into the nuclear energy space with the company's hermetically-sealed brazing process, used to braze ceramic and metal components together.

"With a bigger footprint in the supply chain, we have leverage with both suppliers and each other."

Finally, more growth is happening around the burgeoning field of data centers, all of which require considerable cooling for their servers. Elcon manufactures heat sinks and heat exchanger plates that can run coolant through these servers. The company also offers a considerable portfolio of services in the semiconductor industry, an area that promises to keep growing with the burgeoning reliance on—and worldwide interest in—artificial intelligence systems and the aforementioned data centers.

Undeniably, a great deal of growth is happening for Elcon around the aerospace and defense industries specifically, with many more proposals and project requests coming in following an increase in defense spending in the United States, according to Do. However, she indicates that the company is seeing some supply chain issues as certain types of materials and plating metals are currently experiencing shortages; prices have gone up on these materials, putting pressure on both Elcon and its end users. A lot of customers are also demanding faster timelines on projects, which could be influenced by the race to take advantage of funding alongside other market-based constraints.

Thankfully, TPC has been a big help in facing these challenges. "With a bigger footprint in the supply chain, we have leverage with both suppliers and each other," Do says. This means that if a client has a prototype developed for their project or specifications but is in need of faster output and delivery, some of the work can be given to Elcon's many sister companies to meet these kinds of goals. Having multiple sites throughout the U.S. has helped Elcon address these issues and given it further weight when negotiating with suppliers, meaning that despite any short-term difficulties, the company still sits in an advantageous position within its active markets.

Going forward into 2026, Elcon will be focusing on integrating both its overall capabilities and the TPC technology stack to provide greater efficiencies for its team, says Do. Having started as a group of companies working on different internal systems,

becoming united within the TPC group will likely translate into greater efficiencies that will benefit both employees and customers. The integration also affords Elcon the opportunity to collaborate on engineering solutions within this network of companies. There is still much ongoing work when it comes to trying out new materials and processes, especially involving finding the right fit for a client's project.

"Our company is well-funded and positioned strategically," Do says, and is making investments toward solving its customers' needs across various sectors. Elcon Precision continues to be recognized for its efforts within TPC and even locally, as its titanium surgical mesh product was named one of the top 16 'Coolest Things Made In California' by the California Manufacturers & Technology Association. It also recently passed the 'six million units manufactured' mark of tungsten surgical components for one of its medical device company clients and celebrated the production of one million metallized ceramic components for a long-time end user in the aerospace field.

Clearly, this company isn't slowing down. On its own merits, and with the help of its new parent company, Elcon Precision is poised to keep both its momentum and its growth strong throughout the rest of the decade. ■

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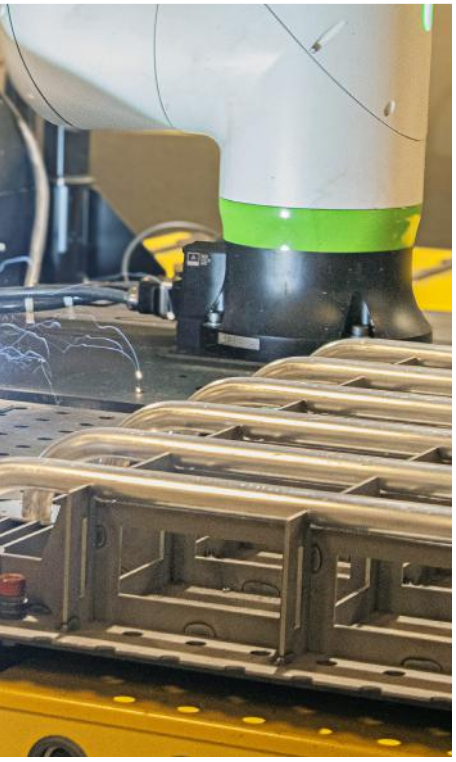
Solid as a ROCK

Written by Pauline Müller

For Fritz Schlabach, founder and owner of Rock Run Industries in Millersburg, Indiana, running a solid business is all in a day's work. His formula is almost deceptively simple: by ensuring that his employees are happy while keeping an eye on finances, carefully measuring metrics with the help of a good enterprise resource planning system, and maintaining a commonsense approach to management while investing in the best modern equipment money can buy, this matter-of-fact leader has created a business that runs so smoothly, a number of industry leaders have sought advice on replicating its systems.

The owner and his staff make it their personal goal to genuinely enjoy every day at work. By hiring quality people and providing them with quality equipment, this company has reached heights its founder could never have imagined on the day he opened its doors for the first time.

Schlabach dreamed of "working in metal fabrication surrounded by great people," since childhood. He would *never* have dreamed what good fortune awaited after a significant drop in hours at his job in the recreational vehicle (RV)/mobile home industry, which took a downturn around 1999. The solution was to offer his services as a volunteer to people with home-based businesses. One man he met used fabricated metal components for equine uses. After a day of painting these, the young entrepreneur offered to make and deliver those parts





"The owner and his staff make it their personal goal to genuinely enjoy every day at work."

EXCELLENCE DELIVERED

pre-painted, as he was better equipped at home to do a good job. This was the start of a successful business.

"I went home, and I bought a little bandsaw from Northern Tool out of a catalogue. I had a benchtop drill press, and I bought a welder, and I taught myself to weld. I found enough work to keep me busy," Schlabach says.

Even though it was a financial struggle, he didn't mind as he was happy with his new occupation. Prototyping followed, and after a year or two, a larger garage. Schlabach then hired a few assistants—some of whom are still with the firm over 20 years later. He continued working his day job and returned to join his team in the afternoons and evenings. His day job employer later gave him the opportunity to fabricate steel components for RVs.

Business continued increasing, from supplying one RV plant to another, until the recession of 2008 hit. The team was expecting business to grind to a halt again, but the opposite happened. As steel prices doubled, the opportunity to quote for contracts that would normally have been reserved for a select few in previous years suddenly became available as financial strain sent companies in search of significantly lower prices. Suddenly, a large company was willing to give Schlabach an audience, and the team set out to prove itself.

By 2009, when the economy and steel prices started normalizing, the fledgling company had secured itself a place of trust amongst some of the area's leading component fabricators for the RV industry. Since then, Rock Run Industries saw consistent 35 percent growth for 13 years.

"I kept pouring all the profits back into the business, buying more equipment, which is truly what I like to do," Schlabach says. "I love going to work. I love working with great equipment. I love working with great people. I got to do exactly what I wanted to do in life."

He admits that his original lack of knowledge about scaling the business, budgets, goal setting, and other standard business practices—and his subsequent solutions—now defies conventional wisdom. Yet, by staying the course, he came through every challenge with more great equipment and many stories to tell. Once, after hiring a consulting company to analyze the company's systems with a view to optimize, Schlabach was informed that he had no ordinary company. Asked for clarification, the consultants told him that "normal" businesses have a difficult time receiving products from their vendors; they have a tough time hiring help; and they have an even tougher time showing a profit.

"I said, 'then why would I want to be normal, if that's what you're telling me normal is?'" he says. His response to the value of support could surprise some folks. "I relied on my wife, and I relied on my Savior, my God. The Bible is full of business advice, if a person truly cares to go there for advice and trust in it," he says.

Schlabach considers his wife Jane to be instrumental in the company's success. As his confidante, soundboard, and biggest supporter, talking to her gave this natural leader an opportunity to work through challenges and develop solutions. "Thank goodness she was there for me. She's still there for me. It's something that most businessmen overlook, the support that they can get from their wife," he says, praising her poise, intelligence, and beauty.

"I love going to work. I love working with great equipment. I love working with great people. I got to do exactly what I wanted to do in life."







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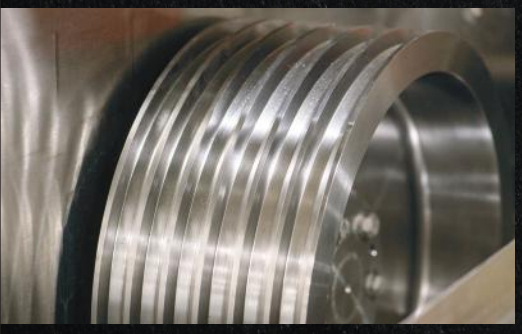
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As for his efficient business systems, paying companies and his people well and on time has proven invaluable and has, surprisingly, become the puzzlement of many, leading a few people, including a chartered accountant from Pennsylvania, to extensively quiz the owner on his secret. "Well, it's just too darn simple," the accountant said. "Most people will never believe that." Schlabach is generous with his formula and describes it as follows:

If a customer buys a part worth $10 in labor value, 75 percent, or $7.50, goes to the employees as a split labor rate. The other $2.50 goes to the company to cover overhead costs. When the company builds over 124,000 parts in a week, the employees earn 75 percent of the labor value of all those parts and the remaining 25 percent goes to the company. Therefore, if one person builds 10 parts per hour at $10 per part in labor value, $75 dollars goes into the labor fund, and $25 goes to the company. Using this system, Rock Run pays employees more than its competitors. The best part is when the employees find efficiencies and ways to produce more than the expected parts per hour. Then their pay goes up per hour but so does the company's allotment for overhead costs. The company also takes its infrastructure output capacity into account. "In order to cover my overheads and raise the employee's pay, I might have to buy my people better equipment," Schlabach says.

In this way, people can then deliver more units in a day. "I do everything I can to make sure that they can make as much money as possible, and if I do that, it takes care of every other problem I have," he says. The result is happy employees, great cash flow, and better procurement.

With the company's real profit opportunities residing in the metal it purchases, the more metal that passes through and out of its doors, the more profit it makes. "I make money on every pound of steel that goes through here," Schlabach says, underscoring the fact that, in this way, a comparatively small outfit moves incredible volumes of metal while retaining staff, covering overheads, and increasing profits. "Everybody wins."

"I do everything I can to make sure that [my employees] can make as much money as possible, and if I do that, it takes care of every other problem I have."

This approach ensures that staff members are happy, clients are happy, and everybody else in between is happy—all while profits are coming in. For this reason, Schlabach sees no need to implement draconian rules and greedy incentives to squeeze even more out of a system that is very clearly working. Looking back, he shares earlier experiences that shaped the company. Even though the business was making plenty of money, living frugally with nine children meant no splurging on luxuries. There were few vacations, no second homes, and no prestigious vehicles to flaunt their newfound success for the Schlabachs. His advice is clear: to make a company work, ensure that you enjoy the work, because financial gains are hard-earned and slow to materialize. Without enjoying the process, life will lose its luster.

Highlighting that another overlooked business resource is a good banker, Schlabach advises trusting bankers for financing, as they are not at liberty to hand out loans that risk turning bad. "They've seen companies that have flourished, and they've seen companies that have failed; they know the warning signs. Don't be afraid to sit down with your banker every three months or six months and hear their side of the story, even if you don't



like what they're telling you," he says, pointing out that bankers can be intimidating when one is young, but that they really are valuable allies.

On the topic of financing equipment, this leader advises taking loans during low-interest periods but cautions that paying such loans off early could work against one when cash flow is better directed elsewhere to cover operational costs. Moreover, he believes it is important not to have all equipment financed. By taking what he calls a stress analysis, Schlabach recommends calculating whether the company could survive a black swan event with the amount of debt it holds or not. If the answer is negative, it is time to improve the strategy by turning the situation around. Curb rapid growth and be watchful of finances when clients pay every 60 or 90 days. It is much easier to grow rapidly when customers pay in 30 days or less.

With the majority of RV fabricators being located in Elkhart County, Rock Run has grown tremendously in revenue. While this field remains the company's main market, it recently signed a contract with Full Swing, a golf simulator outfit. Even more recently, the company started seeing sales representatives arrive at its doors from 250 miles away with fabrication requests. Following COVID-19, when the RV industry skyrocketed and before settling down again, the company decided to start reaching out to contract manufacturing customers to expand its reach. This gave it a head start on establishing trust in new markets at a time when things are looking up for American fabrication.

Always prepared for any eventuality, Rock Run continues to keep costs consistent for customers by maintaining a significant pre-purchased inventory. While this demanded large capital investment, it now means remaining competitive price-wise. To this end, Schlabach counsels vigilance. "There is never a good time to not be paying attention," he says of the market.

In the last two years, the company nearly doubled its workforce with the appointment of 70 new people, added to its existing team of 100. And as mentioned, paying people more than the standard wage is part of the company's strategy to maintain an expert workforce. "Our guys make good money. [They earn] very high wages compared to the industry, and they like that. They appreciate that," Schlabach says. It also means that people are committed to maintaining the happy, respectful equilibrium for which the company is known. Not being driven by money but rather loving to be around the team allows the business to serve as a force for good.

"I never really thought about how much we would grow or what our sales would be or what we would do—I just wanted to work with great people," Schlabach says. "I've been fortunate in that aspect, that it's happened."

Today, five of the nine Schlabach siblings have joined the company and will be invited to each purchase 10 percent of the company when they reach the age of 25. "My children are very talented. They have great minds. That's a blessing, not everybody can say that, but they have great minds. They've taken lots of interest, and the current management team acknowledges and appreciates that," their father says.

As the next generation takes the reins, Fritz Schlabach plans on responding to the call of distressed companies in need of consultation with his expertise as interim CEO to help turn their fortunes around. As a fit 50-year old who gets "a little depressed when there is nothing to solve," there are clearly many years of great service ahead for this man with his singular vision for achieving good in this world. ■

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