



Prairie Manufacturer™

Magazine

Manufacturing Manitoba's Future

Issue 4, Volume 4 • Spring 2020

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In this issue



Leadership

You've worked all your life and have led some amazing teams. But retirement is part of the career progression, too. The decision to step back from the daily grind is a tough one. Scott Keddie shares how he made the decision to finally take on the 'best job in the world.'



Economic Roundup

Doing the same thing again and again, and expecting different results; that's the definition of insanity. If something's not working, why do we keep doing it? Jayson Myers shares why manufacturers need a different strategy to attract and retain their workforce for today and beyond.



Manufacturing Manitoba's Future

Manitoba manufacturers are setting a course for a bright new future. Rooted in a rich history and with a strong Prairie work ethic, nothing is impossible. Meet some new manufacturers looking to make it big, plus some 'new to you' manufacturers already taking on the world.



Skills 4.0

Technological and societal disruptions are coming at us hard and fast. Industry 4.0 has arrived. Workers need skills not only to cope with the change but to thrive in it. Hear from industry and education leaders about how they're working to meet the challenges head on.



Embracing Excellence 2021

Get a sneak preview of the upcoming 2021 Embracing Excellence Lean Conference. Richard Sheridan, a featured keynote, shares with us how creating joy in your company will launch your business and your team not just into, but well beyond the next level of excellence.



5 Questions

With the changing landscape of recreational drug use in Canada, impairment on and off the job is a serious concern for manufacturers in every sector. Jeff Lester of SafeCare Canada tells us what to look for, how to test, and why he got into the business

Next issue

Manufacturing North of 60 - We're heading to the land of the midnight sun to explore manufacturing across Northern Canada. Learn what manufacturing looks like in the territories, how companies tackle the region's challenges, and what opportunities for collaboration exist for Prairie and Northern manufacturers.

Beyond the City Limits - Manufacturing takes place in every corner of the Prairies, not just in the big cities. We leave the bright lights and big smoke behind to check out some of the region's manufacturers who are making it big by being away from the urban sprawl.

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Publisher
Ronda Landygo
ronda@prairiemanufacturer.ca
877.880.3392

Editor
Jeff Baker
jeff@prairiemanufacturer.ca

Special thank you to our editorial advisory committee.

Creative Director
Dana Jensen

Sales
info@prairiemanufacturer.ca

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We've never had it so good!

A word from Ron Koslowsky, Divisional Vice President with Canadian Manufacturers & Exporters in Manitoba

Manitoba is celebrating its 150th year as a province, and as I write this note, we are heading into Louis Riel Day recognizing a controversial founding leader in this region. Early Manitobans could not have imagined how unbelievably well off their offspring living 150 years later would be. We'd do well to take stock of what we have.

Today, our lives are not about hard, long hours worked each day just to survive, but of previously unheard-of guarantees and rights for every citizen who lives in infinitely better conditions. The Industrial revolution fostered by great thinkers about openness in politics and economics allowed people the freedom to explore new ideas and deal across borders, creating massive improvements to individual lives and societal progress.

Today, when surveyed, people tend to romanticize the past and feel things are getting worse, prompted largely by having instant access to 'news' which is typically focussed on the sensational negative occurrences or extreme views across the globe. The internet and social media facilitate radicalism often based on selective use of information to point to a calamitous future with the corresponding call to act via protests, boycotts, or even violence.

So, why do I believe we are living in the best age ever and have optimism about the future? An honest study of history and data will confirm the amazing progress over the past 150 years, and especially in the last 25 years.

Take a look at the data on all dramatic improvements: reduction of deaths related to starvation, improved access to sanitation and clean water, increased life expectancy, improved literacy and numeracy rates (which are a foundation for improvement), reduced poverty, increased freedom and equality, and a healthier environment (where we've actually addressed many issues with technology supported by wealth). Finally, young people all over the world have never had as much access to education and an ability use modern resources to innovate for an even better, brighter future.

History is filled with people who proclaimed things were getting worse in the present, then often thinking much more fondly of the past. It's easy to see improvements behind us, but still hold no hope for the future. The world is not perfect – nor will it ever be – but we need to be more optimistic.

The risk is that if we think the world is falling apart, we are susceptible to dangerous authoritarian leadership who would have us lock down borders and hide behind tariff walls. We foster populist politicians who are eager to exploit this sense that we are drowning in bad news, that the world is on fire. It provides them with rationale to convince citizens they are losing out and that the only solution is more power for the government (at the expense of citizens). It is then easy to prey on peoples' despair and unhappiness and to implement policies and programs to 'fix' issues, typically creating worse outcomes.

We can point to incredible accomplishments, but we need to recognize the danger of undermining our future by looking through a pessimistic lens. We're in a really good place, and it's worth taking note.

In the words of American astronaut Jim Lovell, "There are people who make things happen, there are people who watch things happen, and there are people who wonder what happened. To be successful, you need to be a person who makes things happen."

Isn't it great that as manufacturers, it's in our blood to be the ones to make things happen? Not to mention, we get to make the things that make things happen.

Yours in manufacturing,



Ron Koslowsky



It's easy to see improvements behind us, but still hold no hope for the future. The world is not perfect - nor will it ever be - but we need to be more optimistic.



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Four years already?

It might be our birthday, but we're celebrating you!

By Jeff Baker

We humans sure are funny animals. We read significance into a lot of situations and circumstances that just happen, whether or not we do anything at all: birthdays, anniversaries, Fridays, sunrises and sunsets, the Oscars... et cetera

For most of these things, it's basically a celebration of another trip by our ball of space rock around a giant gaseous fusion reactor. We're beyond insignificant in this picture.

But maybe the truly amazing thing is that we can make these things a big deal, and we can keep making them big deals year in and year out.

In this case, I'm going to make a HUGE deal of one birthday in particular: *Prairie Manufacturer's!*

Yes, it's true... this issue marks the fourth birthday of *Prairie Manufacturer Magazine*, and we couldn't be happier to have you a part of this auspicious occasion.

Maybe it's a birthday, maybe it's technically an anniversary, but since I'm the editor and the chief wrangler of all the words... I'll let it be both.

In the vernacular of anniversaries, the fourth anniversary is traditionally marked with a gift of flowers and fruit. In the more modern take on the occasion, it's marked with gifts of appliances, small electronics, and even linens.

It's probably no coincidence that the modern gifts are manufactured goods. (Check page 2 for our shipping address in case you feel particularly celebratory and/or generous!)

All that said, it's actually us at the magazine who should be celebrating you, our readers.

Without you and your ongoing support, we wouldn't be here sharing manufacturing stories from across the region with your colleagues, suppliers, and supporters. You're the reason we began this adventure, and you continue to be the reason we keep going strong.

In this issue

We're very excited to share with you our spring issue, focusing on the Keystone Province of Manitoba. Our contributors continue to impress with great insight and intelligence that will help you with

your decision-making and preparation for whatever the future may hold.

You'll meet some Manitoba-based manufacturers who are proving that even old dogs can learn new tricks, and even a few new dogs who aren't exactly wet behind the ears. From food to metal, and from buildings to high-tech simulation, Manitoba manufacturers are taking control of their futures by making them their own.

In our Skills 4.0 feature, we're connecting you with leaders in both industry and post-secondary education who are working to ensure the workers of today and tomorrow are ready to tackle the tide change transformation that is Industry 4.0.

Celebrating the champions

This issue is also being released in conjunction with our good friends at CME Manitoba, who are again welcoming the region and country to Winnipeg for their Dare to Compete 2020 conference, and celebrating the best of the best in Manitoba's manufacturing sector at the CME Manitoba Gala Awards Dinner.

We truly cherish the working relationship we have with CME Manitoba, and we hope that all manufacturers across the province make sure to connect with these great folks. They know manufacturing, and they want to ensure that manufacturers are set up for success with the information, resources, and training they need for today and beyond.

Looking ahead

Beyond the celebrations, 2020 is set to be another great year for *Prairie Manufacturer Magazine*, and we're thrilled to have you along for the journey.

We're looking forward to sharing more great manufacturing stories from across the region with you, but we're also looking to you for tips on stories you'd like to see us cover.

As we like to say, *Prairie Manufacturer* is your industry, your community, and your magazine. Maybe you have a celebration of your own you'd like to share, or perhaps there's something interesting happening in the field that might be the next big thing; tell us about it by sending us an email.

As I mentioned before, *Prairie Manufacturer* is here because you're here and because you continue to be here.

Until the next time we chat, I hope you enjoy the read. f



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Transitions: paying it forward

Manufacturing leader shares his story about getting into, and out of, the manufacturing sector

By Scott Keddie

Well to start this story, it's best to go back to the beginning.

As a young lad growing up on the Prairies and in northwestern Ontario, I was lucky enough to spend time on farms and doing lots of outdoor activities including snowmobiling starting in the early 1970s. I basically grew up with the sport of snowmobiling as it developed, and I'm still very involved with it to this day.

When it came time to start choosing a direction in adult life, I went into engineering with the sole purpose of designing new snowmobiles. So, I enrolled in the University of Manitoba's Faculty of Engineering in 1981.

Around my second year, a new program was starting up in the field of Industrial Engineering. I remember sitting through an introductory overview of this program, and I made my choice to take this route based on two things: one, I liked building things, and two, I liked working with people. I finished up the Industrial Engineering program at the University and started as an industrial engineer in

the garment industry here in Winnipeg, which was a fairly large part of the manufacturing sector back then.

During my career, I've had the privilege of working with many great companies and people in Manitoba in a variety of sectors, including recreational vehicles, garment manufacturing, aerospace and defence, and building products - specifically windows and doors, then cabinetry.

Now almost 40 years after signing up for engineering, I find myself at another crossroads in life, semi-retirement.

My wife, Deidre, and I made an early choice to stay in Manitoba to raise our family. She's working as a counsellor for the Rural Municipality of Macdonald, and I wanted to slow down - but not completely stop working - after being General Manager of a large manufacturing operation.

We thought starting up a consulting firm would be a good option. So, in January 2020 Keddie Performance Consulting was incorporated. Now, it's the time to do the 'fun' work that I want to do!

Throughout my career, I have had the benefit of having great leaders and mentors to guide me along my path. As I gained more experience, I tried to provide the same for others.

The situations that you come across in business are rarely taught in school, so having someone to share their learnings and experiences with you can be invaluable.

One thing I realized early was to never miss a chance to learn something from anybody or anywhere.

Years ago, I was on an Oliver Wight manufacturing resource planning (MRP) course in California, where I befriended a gentleman who had been a teacher and then had been asked to run a small manufacturing firm and accepted the challenge.

He knew that he did not have a lot of knowledge in manufacturing, but he used his teaching background to break things into three buckets: the "3 P's" of people, process, and product/service. I thought this to be pretty astute and have been "borrowing" his perspective for quite some time now. Every time I started a new role with a new firm, I used the 3 Ps to take inventory of the situation to begin developing the path forward.

Another key learning came while being on a course at Queen's University in Kingston, and the chap I sat with was leading the Major Crimes unit of the RCMP out of Halifax and had been in charge of the investigation of the crash of SwissAir flight 111 off Peggy's Cove. Andy shared many stories about that experience, but my key takeaway was when faced with making a decision in unfamiliar territory, always do the right thing or take the high road, never compromise.

I find myself being very energized about going in and helping out other businesses and their teams going forward. I get to take all the knowledge, expertise, and experience that I've collected, and pay it forward by sharing it with others who don't have to make the same mistakes or face the same challenges I faced earlier in my career.

The most rewarding moments of my career have been developing and leading teams, so if sharing some of the learnings I've had with other businesses that are growing or

stepping out into new ventures, then this next chapter of my life has the potential to be a lot of fun.

I was on the board of CME Manitoba for 15 years, and I learned there are a lot of great companies out there and really enjoyed meeting and working with them.

The areas that I believe companies can benefit from outside eyes are strategic planning, organizational assessment and development, and really looking hard at your specific market sector outlook and what steps you need to take your product, service, or value proposition to stay competitive for the long term.

Another good step for companies is process management and control, for which the needs will vary based on the complexity of the business model. The speed of change and advancement of technology is certainly not going to slow down anytime soon, so we need to be on our 'A games' to protect and grow our manufacturing base here in Western Canada.

Going forward later this year I plan on doing some more work with CME Manitoba and other manufacturing firms, with whom I've been in many positive and promising conversations.

Going down this road at this point in my life feels right. I'll be able to keep my foot in the manufacturing arena while still having more time for my family, my grandchildren, and my friends. Who knows, there might even be time for some vintage snowmobile racing, which is how it all got started in the first place. ☺

Scott Keddie is living the high-life of the semi-retired manufacturing executive. He is now President of KPC Inc, a Manitoba-based business consulting firm specializing in the manufacturing sector.

One thing I realized early was to never miss a chance to learn something from anybody or anywhere.

Manufacturers need new strategies to overcome labour market challenges

By Jayson Myers

Last year, 1,798,000 Canadians were either employed or looking for a job in manufacturing. That's 37,000 fewer than in 2010, the year when Canadian industry began to recover from its deepest recession in 80 years. Meanwhile, Canada's total labour force expanded by 1,750,000 or by almost 10 per cent over the past decade. Manufacturers may be doing more with fewer people, but they are also losing ground in attracting potential employees.

In 2019, 1,730,000 people were employed in Canadian manufacturing and 96.4 percent of everyone looking for a job in manufacturing were actively employed. Canada's manufacturing unemployment rate was 3.6 per cent, much lower than the 5.7 per cent rate for the economy as a whole. But there were only 22,000 more people working in manufacturing last year than 10 years earlier when, in the aftermath of the recession, the unemployment rate in Canadian manufacturing was twice as high.

Contrast that with the Canadian economy as a whole. There were 2.1 million more people working in Canada

last year than in 2010. Manufacturing has accounted for only one per cent of all the jobs created over the past decade. Today manufacturing accounts for 8.9 per cent of all jobs in Canada. Ten years ago, manufacturing's share was 9.9 per cent. Twenty years ago, it was over 13 per cent.

Yet, in spite of the fact that total employment in manufacturing has remained relatively unchanged over the past decade, the value of goods produced and shipped by Canadian manufacturers has increased by 30 per cent. Manufacturers have enhanced the value of their products. They have improved operating efficiencies through a combination of process improvements and automation. And, they have outsourced more of their engineering, technical, and logistics functions to the services sector.

They have also boosted wages and salaries for their workers. In 2019, weekly earnings in Canadian manufacturing averaged \$1,136, up by 18 per cent since 2010. While earnings in manufacturing are 11 per cent higher than the Canadian average, wages and salaries in other

sectors of the economy are increasing more rapidly – average earnings have risen by more than 20 per cent since 2010.

Competitive compensation is only one of the challenges that Canada's manufacturers will face in attracting workers over the coming decade. Almost 26 per cent of employees currently employed in manufacturing across Canada are aged 55 or older, and most will be retiring within 10 years. Manufacturers are less prepared today than they were 10 years ago to manage the situation. Between 2010 and 2019, the number of people in the manufacturing workforce aged between 25 and 55 who could take over the jobs of their older colleagues fell by 209,000, and young people under 25 account for only eight percent of the manufacturing labour force.

Simple math shows that, based on current trends, Canadian manufacturers will need to boost productivity by 25 per cent over the next decade simply to maintain output at current levels, let alone grow. The situation is just as pressing for Prairie manufacturers.

Manitoba

In a sense, Manitoba bucks the trend. It is the one province where manufacturing is actually gaining ground in relation to the economy as a whole.

In 2019, there were 64,200 people employed in Manitoba's manufacturing

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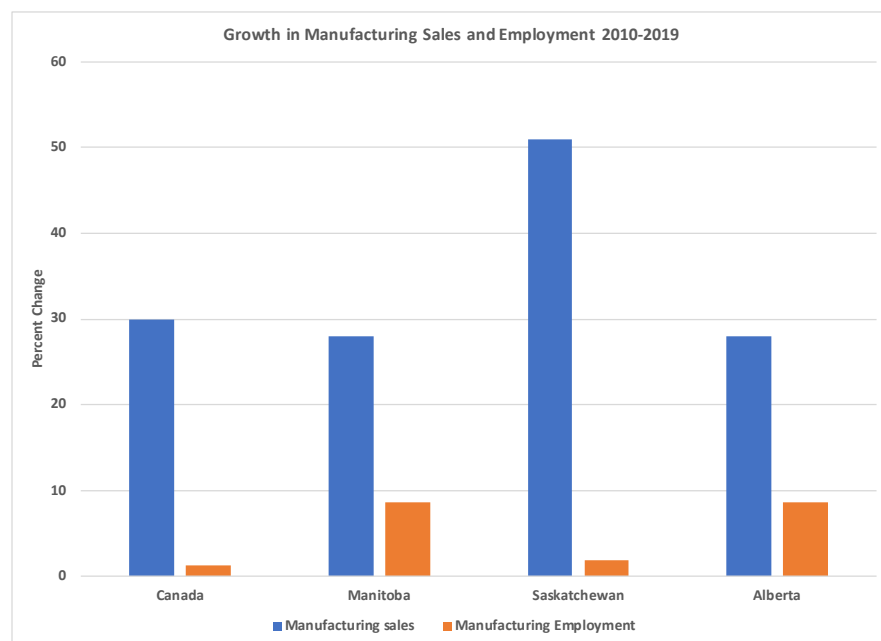
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sector; 5,100 more than in 2010. The sector accounted for just over 11 per cent of the 44,400 new jobs created in Manitoba over the past decade. Manufacturing currently accounts for 9.8 per cent of total employment in the province.

However, Manitoba manufacturers have not had an easy time finding workers. With only 1,300 people in the province looking for a manufacturing job but not employed, Manitoba's

manufacturing unemployment rate is only 2.4 per cent, the lowest in the country. In fact, the province's manufacturing labour force has grown by only 4,000 people since 2010. That's one reason why average earnings in Manitoba manufacturing, now running at \$1,080, have jumped by more than 23 per cent. They are now 13 per cent higher than for the provincial economy as a whole.

While manufacturing employment in Manitoba has risen by close to nine per cent since 2010, sales have grown by 28 per cent. That has required a productivity increase (measured in terms of sales per employee) of 18 per cent. With just over 23 per cent of Manitoba's manufacturing workforce likely to retire over the next ten years, if the trends of the past decade prevail, manufacturers will need to boost

productivity by an additional 17 per cent just to maintain current levels of output by 2030.

Saskatchewan

The situation in Saskatchewan is not as promising. The good news is that manufacturing sales jumped by 51 per cent between 2010 and 2019. Almost all of the increase can be attributed to a 48 per cent increase in productivity. The number of people employed in Saskatchewan manufacturing rose by only two per cent – an increase of only 600 jobs – while the total number of people employed or looking for work in manufacturing was virtually unchanged.

In 2019, there were 30,700 people employed in Saskatchewan's manufacturing sector. The unemployment rate was 2.5 per cent, compared with 5.4 per cent for the provincial economy as a whole.

Other sectors of Saskatchewan's economy have been much more dynamic when it comes to labour market performance. Overall, the province's labour force has grown by 53,300 people since 2010, while the economy has generated 49,400 net new jobs. Manufacturing's share of total employment in the province has declined from 5.7 to 5.2 per cent.

That is in spite of hefty wage and salary increases. Average weekly earnings in Saskatchewan manufacturing rose by more than 26 per cent from 2010 to \$1,197 in 2019. Today they are running 15 per cent higher than the provincial average and six per cent higher than the average for all manufacturing workers across Canada.

The next decade looks even more challenging. Just over 19 per cent of Saskatchewan's manufacturing workers are likely to retire within the next ten years. Younger workers under the age of 25 make up only nine percent of the manufacturing workforce, and the number of young people in Saskatchewan looking for work in manufacturing has fallen by 1,100 since 2010. If it's business as usual in terms

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of hiring, Saskatchewan manufacturers will need to boost productivity by a full 19 per cent in order to maintain current levels of output by 2030.

Alberta

Conditions are not quite as daunting in Alberta. Manufacturers in that province boosted sales growth by 28 per cent between 2010 and 2019. They were able to hire 10,800 more people over that period of time. They also increased productivity by 18 per cent.

Still, even with significant layoffs in other sectors of Alberta industry, the province's manufacturing labour force has grown by only 9,600 since 2010. Even more worrying, fewer young people under the age of 25 are employed or looking for employment in manufacturing.

In 2019, there were 136,000 people employed in Alberta manufacturing. The province's manufacturing unemployment rate was 4.4 per cent, compared with 6.9 per cent for the economy as a whole. However, manufacturing has accounted

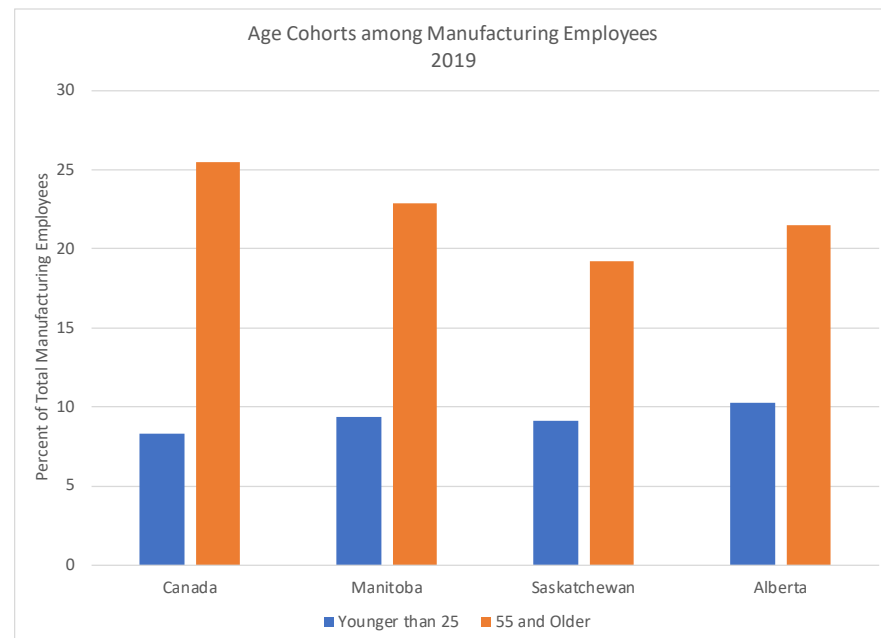
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for only three per cent of all net new jobs created in Alberta over the past decade. As a result, the manufacturing sector's share of total employment in the province dropped from 6.2 percent in 2010 to 5.8 per cent in 2019.

Today, average weekly earnings for Alberta's manufacturing employees amount to \$1,278, the highest in the country and more than 12 per cent above the average for the Canadian

labour market as a whole. Yet, while earnings in manufacturing are still 10 per cent higher than the average for all Alberta workers, manufacturers in the province have lagged behind other sectors in terms of compensation increases. Earnings in manufacturing rose by 16 per cent between 2010 and 2019 while average earnings for the province as a whole increased by 18 per cent.

Future challenges are also apparent. Twenty percent of workers currently employed in Alberta manufacturing are over the age of 55. Workers younger than 25 account for only 10 per cent of the province's manufacturing workforce. Based on current trends, Alberta manufacturers will need to increase productivity by about 12 per cent over the next decade just to maintain current output levels.

New approaches are needed

Prairie manufacturers, compared to the rest of Canada, have the advantage of a relatively younger manufacturing workforce. Even so, the wave of retirements that is coming over the next decade will require significant improvements in productivity – in higher value products and services, process improvements, automation, and outsourcing – simply to maintain sales levels, let alone to compete and grow.

Manufacturers need new workforce strategies if they are to be successful. They need to attract more young people into manufacturing and employ them productively. Across the Prairies, the number of young people employed in manufacturing actually dropped by 2,000, and those employed or looking for a job in the sector declined by 2,600. Manitoba was the only province where manufacturers have been able to attract and hire more young people over the past decade.

Nine per cent of all young Canadians looking for a manufacturing job were unemployed in 2019. If younger workers are going to find a job in manufacturing, they need to have the skills and the practical experience in order to do so. We need to make sure our education systems are up to par, but manufacturers themselves need to engage more young people in work-integrated learning opportunities before they hit the full-time labour market in order to ensure they have the practical and technical skills to succeed.

Manufacturers also need to hire from under-represented sectors of the workforce, and ensure workplaces are geared to employ them productively. Today, there is an equal number of women and men entering Canada's manufacturing workforce, and the unemployment rate for young women is lower than for young men. That is not the case in the Prairies, where the number of women entering the manufacturing workforce has fallen by almost 2,000 over the past ten years and the unemployment rate for women has remained significantly higher than for men. Women currently account for 28 per cent of all manufacturing employees in Canada

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(25 per cent in Manitoba, 20 per cent in Saskatchewan, and 24 per cent in Alberta).

A lot needs to be done to ensure that Canadian manufacturers, and Prairie manufacturers in particular, will be able to find workers with the practical, technical, and business skills required to achieve the productivity improvements they will need to be able to compete and grow over the coming decade. It starts with making sure there are many more people who want to work in manufacturing in the first place.

One thing is for certain: Manufacturers will have to up their game. Business as usual is definitely not an option. ⁶

Jasyon Myers is CEO of Next Generation Manufacturing Canada - the country's advanced manufacturing supercluster. An award-winning business economist and leading authority on technological change, Myers has counselled Canadian prime ministers and premiers, as well as senior corporate executives and policymakers around the world.



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TRAINING FOR TOMORROW'S OPPORTUNITIES

It is often said that Canada has a skilled worker shortage, but this statement is misleading. According to Statistics Canada, over 40 percent of Canada's population functions at level 2 literacy or below and in Indigenous communities that number can be over 50 percent. Yet, most jobs in our economy require a level 3—the minimum score needed to be considered employable. As Canadians, this means four out of ten people were not ready to participate in yesterday's economy, let alone tomorrow's.

We don't have a skilled worker shortage here in Canada; we have an opportunity, workforce participation, training and education gap. In order to address these gaps, we need to revisit how we see our issues and missed opportunities.

At Manitoba Building Trades (MBT) we are working to implement effective solutions by making a committed investment into our economy and workforce. Our multi-million-dollar Manitoba Building Trades Training College facility will house Canada's most advanced training programs aimed at preparing our workforce for tomorrow's opportunities.

This fall, Manitoba students will have a unique opportunity to explore the skilled construction trades in the state-of-the-art training facility located in central Winnipeg.

The Manitoba Building Trades Exhibition Hall will be an interactive experience designed for Grade 9-12 students to gain valuable hands-on experience using virtual and augmented reality technology, simulators and real tools used in skilled trades.

Residing in a 68,000 square foot facility that is only the second of its kind in Canada, the Exhibition Hall will allow students to explore a future career in skilled trades on a year-round basis.

During a three-hour workshop, students will have a chance to participate in a variety of hands-on demonstrations at 15 different booths, exposing them to over 30 skilled trades professions. Equipped with trade specific tools and machinery, students have


the opportunity to try a variety of trades and get a first-hand look at what those professions would entail. All booths will be staffed by a tradesperson who are experts in their field and specifically trained to work with students.

To ensure students are prepared for future opportunities, programs will incorporate leading-edge Virtual and Augmented Reality technology that will help students experience construction trades careers and learn how the technology will be used in the industry.

Through a partnership with Skills Plan Canada, evaluation tools will be designed for teachers to assess students for both interest and aptitude towards a particular skilled construction trades profession.

“At Manitoba Building Trades (MBT) we are working to implement effective solutions by making a committed investment into our economy and workforce.”

MBT welcomes inquiries about the Trades Exhibition Hall and will start accepting bookings in mid-July 2020 for programming starting Fall 2020. There will be no associated cost for school or students and MBT will provide all personal protective equipment (PPE) for visiting students.

MBT aims to increase workforce participation and entry rate into the industry by creating an environment that actively engages students and improves the quality, scope and depth of exposure to the skilled trades—preparing our students for future opportunities in our economy and on the job site. 

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Starting fall 2020, high school students will have the opportunity to explore a career in skilled construction trades in our new multi-trades training facility. Interactive programming will expose students to over 30 different skilled trades using leading-edge technology.

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Developing a Return to Work Program



By Workers Compensation Board of Manitoba

Every year, more and more businesses are seeing the tremendous upside of implementing a Return to Work program in their workplace.

There are a variety of reasons.

Return to Work is good business. It minimizes WCB claims costs, it can reduce the cost of training replacements and can help maintain productivity.

For others, it's complying with legal responsibilities. There's legislation around re-employing injured workers that applies to organizations with more than 25 workers. They do it to remain compliant.

More often than not, it's moral. Employers feel a duty to their employees and are compelled to help them get back to work as quickly and safely as possible.

What many employers are also discovering is that a lot of workers see the value in it as well.

Workers who take part in a Return to Work plan:

- recover more rapidly from their injuries
- maintain their job stability
- get back on track sooner and with less uncertainty about the future.

Having a program in place that anticipates how to deal with a workplace injury — in a manner that makes workers feel appreciated — is an excellent way to increase engagement and remind them that they are a valued member of the team.

"Business owners are starting to see the strategic advantage that a Return to Work program can provide in recruiting and retaining workers," says Dan Holland, Vice President, Compensation Services, WCB Manitoba. "They are realizing that if they are safer and support Return to Work, they can attract and retain workers in the competitive labour market. At the same time, they are maintaining



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productivity, enhancing team dynamics, and improving workplace morale."

Each workplace and worker is unique. Therefore, Return to Work programs must evolve and be customized to meet the specific needs of individual workers and workplaces. Key principles based on participation, communication, responsibility, and early intervention help ensure the program's success.

"Return to Work programs lead to a faster and better recovery, help ease financial worries and help the worker avoid isolation by reconnecting to social networks," says Chris Poot, Manager, Return to Work Program Services, WCB Manitoba. "Medical professionals believe that Return to Work is a healthy and invaluable part of an injured worker's recovery as there is substantial evidence to support the positive link between work and physical, mental and social health."

An effective Return to Work program is one that is well-designed, communicated clearly and understood by everyone in the company. It must be well-implemented, maintained and kept current. It involves the employer, injured worker, healthcare provider and the WCB.

For Holland, the key is to have all four parties willing to do what it takes to return the injured worker to meaningful work.

"When all of the players are on the same page and the employer knows how to implement a safe and effective

Return to Work, the process happens seamlessly," he says. "That's the goal and it's definitely possible."

Setting up a Return to Work Program

Consider the following tips for creating a successful Return to Work program:

- Present the Return to Work process as part of your company's benefits package and explain that you support helping workers with a timely return to health and work.
- Identify some Return to Work transitional work opportunities before they are needed.
- Consider job modification before injured workers return to their former jobs.
- Allow recovering workers to ease into the full work routine with graduated hours or work responsibilities.
- Keep in touch with recovering workers and maintain a positive attitude toward their Return to Work.
- Focus on what the workers can do; not what they cannot do.
- Have employees help to identify alternate and productive work.
- Ask for help from your WCB case worker if you need assistance. 9

Return to Work Resources

MANITOBA

WCB Manitoba offers a free one-day workshop, called Return to Work Basics, that helps employers create or enhance a return to work program to ensure injured workers can return to meaningful work.

To learn more and register, visit www.wcb.mb.ca/training, or call 204.954.6161 or 1.855.954.4321, extension 3.

SASKATCHEWAN

WorkSafe Saskatchewan offers resources to help ensure successful return to work after injury or illness. Training is available to teach supervisors and business owners how to form committees, create policies, and plan procedures to facilitate a return-to-work program.

Visit www.worksafesask.ca/industries/return-to-work or call 1.800.667.7590.

ALBERTA

Employers and employees in Alberta can access resources, training, and other information from WCB Alberta.

Visit www.wcb.ab.ca/return-to-work or call 1.866.922.9221 to learn more about the services available.

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CHANGE

Ken Smith, newly appointed President of Winnipeg based Tempeff North America as well as it's first employee, gets candid.

GAME CHANGERS

I probably shouldn't admit this, but since we began, we've had such extreme growth that I recall periods where we were 30 days behind schedule. It was stressful and chaotic."

Ken Smith, newly appointed President of Winnipeg based Tempeff North America as well as it's first employee, gets candid with Rhae Redekop, Pinnacle Executive Recruitment Consultant. He talks about the company's periods of double-digit growth year over year since their inception 11 years ago and the game changers that lead to managing their continuous growth with far less effort today.

RR: What do you build here?

KS: We are a manufacturer of energy recovery ventilation units. Our products recover wasted energy from buildings and put it back into the building which helps save energy and money.

RR: Can you expand on that?

KS: Every building exhausts air. Whatever is not desirable in a space typically gets dumped out. On the other side of that you have to have air makeup. Meaning, if you exhaust air out, you have to put it back in. If you don't, it creates a negative pressure in the building.

The process of bringing outside air back into the space and heating it to a comfortable temperature takes

a tremendous amount of energy, especially in our dramatic temperature changes. What our equipment does is capture that energy from the air that has been exhausted out. It's still a fairly new technology for North America and there are all kinds of energy recovery products on the market, but none of them offer the benefits that ours does.

RR: What are the major differences?

KS: Our equipment recovers more energy than most devices do which means it's a much higher efficiency. It's also a frost resistant technology. With traditional technologies, the colder it gets, the more prone to freezing because of humidity in the exhaust. If left unchecked, it will freeze up. Which means you have to create a frost strategy, and that robs energy. Our equipment does not have that issue so there's a significant overall benefit to the user.

RR: Who is your client base?

KS: We focus on North America. Primarily Canada, because of the climate. We've also been working to penetrate the US market, but of course, it takes time.

RR: To give some context to the business, how many units are built in your facility?

KS: We consider ourselves a high-mix, low-volume manufacturer, so our products are very custom. In an average week, we produce two to five units.

RR: Has that volume changed a lot in the last 11 years or has it remained consistent?

KS: It's changed significantly in that only four years ago, we were producing roughly half that number.

RR: The subject of our article is Game Changers. What would you say was either the person or event that made you think of things differently?

KS: I would say we've probably seen the most change in the past year. We still consider ourselves a young company, but we've experienced rapid growth. A big part of our change has been a focus on establishing the right standards to make it easier to repeat what we're doing. As a high-mix product, we don't build the same thing every time, so we've focused on making the concepts consistent.

RR: When you say that you've focused on concepts, is it design concept or is it manufacturing concept?

KS: It was the design of the product and how it goes together. Engineering

came up with a set of rules to make sure that the design was always the same regardless of how big the equipment was. Essentially making the designs both repeatable and different. And it wasn't just from one model size to another, it's on any given custom product that those rules are repeated. It's made it predictable, and relatively easy.

Our engineering leader has done a fantastic job spearheading those changes with the design team in conjunction with production and the units have started going through the shop with far less effort. Assemblers can predict what they're building and how it's going to go together without needing a blueprint change every time.

From the end of 2018 leading into 2019, we ramped up quickly. I would say 30% over the year, but really that was mostly concentrated in a 6-month period, so more like 60% growth. And because of the design changes, we were able to get through that.

RR: You mentioned your engineering leader. How long has he been with the company?

KS: About 4 years; actually, he was a Pinnacle recruit. We had a good design team, but they weren't led in a focused way. He's done a great job of pulling everyone together and getting them on the same page.

RR: What's next for Tempeff? Where do you see yourself in three to five years?

KS: We were acquired in 2017 by a company called Nibe and they've been great. They're a progressive company and their core philosophy is around sustainability. They're quite remarkable in that they don't just say it, they really live it.

Through Nibe's history, they've set aggressive growth targets for their companies of 10% growth year over year. That tradition for them, goes back 30 plus years. However, the other piece of information is that they've usually been able to hit their 7-year target in 5 years. So, the goal is conservative, but through ingenuity and hard work they've been able to surpass their goals.

They've also pushed us to develop more. We're currently undergoing ISO-9001 certification which we likely would not have done on our own. Maybe the biggest benefit though, has been to work with and learn from all the sister companies within the Nibe portfolio.

RR: Are there any other lessons you've learned that you want to share with us?

KS: The other thing we've always tried to do, is get a little bit better every day. I think our people reflect

that. They push themselves little by little every day and it really pays off. Sometimes it's almost imperceptible, but if you can keep that mindset, you tend to see results. I think where we are today is largely because of it. Often if we win a contract, we'll share that with everybody through lunches or company events as a time for celebration, and to remind them of where we are, where we've come from and that even though sometimes it was hard, we've come a long way.

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About Pinnacle: Founded in 2002, Pinnacle has become Manitoba's leading locally owned and operated staffing and recruitment firm as a direct result of their 25 industry-specialized recruiters being focused on one goal: connecting top talent with top Manitoba companies through their five divisions: Executive & Professional Search, Office & Administration Staffing, Industrial Staffing, Technology Recruitment, and Accountants Now Staffing and Recruitment. f



Manufacturing Manitoba's Future

**Manufacturers old and new are
making a bright new tomorrow**

By Jeff Baker

Love and marriage. Love and marriage go together like a horse and carriage. At least according to Frank Sinatra, in his 1955 hit single (but maybe more of us know this from the opening theme to the sitcom Married... with Children).

Perhaps, though – and just go with me on this – he actually meant to say manufacturing and Manitoba go together like that proverbial horse and carriage.

Since the birth of Manitoba in 1870, and even well before that, manufacturing has been a part of the life of the province and its people. The Indigenous people who have called this land home for thousands of years have manufactured goods of their own from the resources both at hand and gained through trade – fur clothing, animal hide shelters and clothing, stone and metal tools and utensils, artwork, food and drink, and lots more.

Even in the times of the Northwest Company and the Hudson Bay Company, manufacturing was part of daily life through the blacksmiths, coopers, farriers, bakers, carpenters and joiners, masons, and other trades.

In the last century, Manitoba has grown into a manufacturing powerhouse that rivals countless jurisdictions across Canada and around the world for the diversity, expertise, innovativeness, and experience of its companies.

From aerospace, defence and transportation solutions to food and beverages, and from digital products to traditional

crafts and trades, manufacturers across Manitoba are showing the world just what the Keystone Province can do.

Despite the province remaining under the radar of many folks, Manitoba manufacturers are blazing new trails in both traditional and non-traditional sectors. Maybe it's the lack of spotlight on the province that gives the industry the ability to take the smart risks, build the new things, and then hit the market in a 'quiet' way that can take others by surprise.

Or perhaps it's the practical Prairie ethos of 'just get it done' – without fanfare or ostentatious celebration – that means the innovation and creativity just happens as part of the daily work, and the makers and creators simply get down to work and eschew the non-value-added fuss.

No matter the reason, Manitoba's manufacturers are working in an industry that has a foundation of hundreds of years of success and growth. And they're continuing to build on these successes, pushing the boundaries of what is possible and practical, demonstrating to everyone the power of the Keystone.

Homegrown simulations mean real success

In south Winnipeg, by the University of Manitoba campus, there lies a striking glass and steel building that bridges a pond frequented by ducks, geese and other wildlife. Beyond being an architectural gem, the building houses one of

Winnipeg's most innovative and wide-reaching manufacturing companies, RTDS Technologies.

For more than 25 years, RTDS Technologies has called Winnipeg home. Born in 1994 out of Manitoba Hydro's HVDC Research Centre, RTDS products and services are used by utility companies, researchers and technical institutions, and manufacturers in every corner of the globe.

The company manufactures real time power system simulators that allow for electrical systems – including power grids, new equipment or technology, new products, or even new building systems – to be tested in real-time, using digital methods that mitigate deployment risk.

Real time simulation means that physical devices, such as power system protection and control devices or power electronics devices, can be connected to the simulated system in a closed loop. The interaction between the network and protection, control, and power devices can then be studied in great detail over a wide frequency bandwidth.

"We're a technology company that actually manufactures," says company president Kelly McNeill.

"We celebrated 25 years in business last year. Technology companies don't tend to have that kind of staying power.

How does the company stay relevant and at the forefront of its technology niche?

In the last century, Manitoba has grown into a manufacturing powerhouse that rivals countless jurisdictions across Canada and around the world for the diversity, expertise, innovativeness, and experience of its companies.

McNeill says, "We need to continually innovate as the technology becomes faster and our customers demand more speed and more power in a smaller package. We need to make sure they can use our systems in an effective manner.

The company's roots run deep and its team is proud to call Winnipeg and Manitoba home.

"We choose to be in Manitoba for a couple reasons," says McNeill.

"One is the heritage of the power system here in Manitoba, and another is the University of Manitoba that provides us with pretty much all the skilled people we need. Our best access to talent is right here, where some of the best power systems engineers in the world are produced, and where the world comes to learn."

"We have 80 people in the company today, and everyone is based here in Winnipeg. Our company has a solid foundation here, and we reach out around the world from our home."



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Kelly McNeill, president of RTDS Technologies. PHOTO COURTESY: RTDS TECHNOLOGIES / NARDELLA PHOTOGRAPHY



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Anita and Pina, co-founders of Piccola Cucina.
PHOTOS COURTESY: PICCOLA CUCINA



The heart of the home is the kitchen

The theme of home runs strong throughout the manufacturing community in Manitoba, regardless of the sector.

For Pina Romolo, co-founder of Winnipeg based Piccola Cucina, home is where her company started (literally, in the family kitchen) and family is at the heart of everything she does. In fact, Pina's mother Anita is the company's co-founder and is still involved in its operations, and the supplier of their key ingredient – almonds – is a family farm in California.

"It forms the foundation, says Romolo.

"I wouldn't be here if it weren't for my family who immigrated to Canada and brought with them their traditions and know-how. The knowledge that comes from our heritage is what we're able to impart in our business."

As an Italian family, food was central to life in the Romolo household, and the family recipes from the old country were cherished. Like many things from days past, the recipes for the

sweet Italian treats, like amaretti, have come into fashion in a big way for people of all origins and walks of life.

Almond-based amaretti (an Italian take on the macaroon) happen to be inherently gluten-free, and this is a niche which Romolo and Piccola Cucina have seized, taking North American snack cupboards by storm. Beyond being free of gluten, the company's products are also free from dairy and are Kosher certified.

"We choose to not use any fillers or [wheat] flour. We want to make it true to tradition, so that means very simple ingredients – we only have four or five in each product. We're trying to sort of take it back to what my Mum made when I was growing up," says Romolo.

Romolo and the Piccolo Cucina team are growing the business by expanding their line of amaretti to include novel flavours like lemon lavender and maple walnut, and even developing pie shells and crusts to provide additional choices for consumers who are gluten-intolerant or just looking to expand their culinary horizons.

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Steeling the building industry

For Brandon-based Behlen Industries LP, Canada's largest manufacturer of steel building systems, the horizons have expanded greatly over the almost 51 years they've been in business. From their home in southwestern Manitoba, Behlen has made their name as the go-to designer and fabricator of steel buildings – including airplane hangars, recreation centres and indoor sports fields, fire halls, educational institutions, churches, and commercial and industrial facilities – in just about every corner of the world.

Over those nearly 51 years in business, Behlen has seen the transformation of the steel building industry and is leading the charge by continuing to drive innovation throughout their operations.

"We started looking at opportunities to innovate in our product welding operations, and it turned out short-run robotics was what worked for us," says Sean Lepper, Behlen Industries' Vice President and General Manager.

"All of our product is custom, so we needed a production line that could easily deal with customization."

In a business where custom buildings are the product, changes in one part of the business require changes in all parts of the organization, from design to engineering to production. Those changes in the design side of Behlen meant moving from traditional two-dimensional drawings and models to three-

dimensional models living in a 'virtual' world where entire buildings can be constructed, tweaked, and spec'd in a computer-based environment.

Lepper says, "The new equipment in our facility can communicate directly with the models we create, so this means we've been able to implement process improvements all the way through our business."

"We take the data from the models and populate all the production schedules and systems in an automated fashion, all of which in the past used to be done manually and in low-tech spreadsheets."

"It's meant an overall improvement in efficiency of about 20 per cent across our business," says Lepper.

"We have a lot less time spent on the paperwork and admin side of the business; the throughput of our operations has increased significantly; and the quality and consistency of the product out the door has improved, too."

Lepper says the company has been able to train their people and upgrade their skill levels to work in the new environment.

"The biggest hurdle to implementing any change is the change itself."

"It's taken a lot of collaboration between the different departments, and sometimes it's a struggle, but we're getting there, and we're seeing some great successes," says Lepper.



Sean Lepper, Behlen Industries' Vice President and General Manager.

PHOTOS COURTESY BEHLEN INDUSTRIES LP



Ed Dornn, Greenstone Building Products founder.

PHOTOS COURTESY: GREENSTONE BUILDING PRODUCTS

Overnight success in only 30-odd years

Building the future for Greenstone Building Products has been a journey of discovery that's taken the company's founder across North America to find a product that's been in market for 30 years, but never found wide acceptance in the construction industry.

Ed Dornn, Greenstone Building Products founder, has been in the general contracting industry for more than 20 years, with much of that time focused on developing and championing innovative building products.

For Dornn, meeting the inventor of the Greenstone insulated composite envelope (ICE) panel building system was a sort of 'eureka' moment. He had found an innovative product that seemed to address many of the building envelope concerns facing constructors and owners.

Though the panel product had been on the market for three decades, and manufactured in various parts of the world, there remained the significant issue of the products not having been

tested in accordance with a recognized testing standard by an accredited testing agency.

Dornn set about establishing a formal partnership with the product's inventors and designed a state-of-the-art manufacturing facility and certified test laboratory in Brandon, Manitoba so the panelized building system could be formally tested and accredited, which was key to industry uptake across North America.

Despite some hiccoughs in the partnership, Dornn says that Greenstone Building Products standing fully on its own is free to focus on building their team, executing their vision, and continuing to drive innovation in both the manufacturing and construction sectors.

"We're determined to defy the status quo, and that's resulted in Greenstone projects being completed in almost every major city in Western Canada, on all three coasts, and in the United States and the Caribbean," says Dornn.

"People are thinking differently about sustainability in construction, and we're excited to be part of the conversation." ❧

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Congratulations

Ivor Perry

CME Manitoba Manufacturers' Hall of Fame 2020 Inductee

Ivor Perry founded Dimatec in 1988, leading the company to its current position as a trusted market leader through dedication to providing high quality products and excellent service. The company designs and manufactures innovative, high-quality metal bond diamond products, drilling equipment components, and precision-machined parts for the mineral exploration, mining, geotechnical, and energy sectors.

Born in Northern Ireland, Ivor's professional journey took him through South Africa as a manufacturing control engineer, including a fellowship at the Production Management Institute of South Africa, before arriving in Canada in the late 1980s to join what would eventually become Dimatec.

Since the company's inception, Ivor has ensured Dimatec stays on the cutting edge of innovation in the fields it serves, meeting and exceeding ISO standards. Ivor is committed to professional excellence and is a long-standing member of the Institute of Engineering Designers, the Canadian Diamond Drilling Association, the Industrial Diamond Association, and Canadian Manufacturers & Exporters.

Under Ivor's leadership, Dimatec remains entirely Canadian-owned and managed. With its facility located at the geographic centre of North America, the company is able to rapidly transport products to any part of the globe.



*Congratulations,
 Ivor, for this
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At the heart of the prairies and the centre of the nation, Manitoba is where Canada's heart beats. This year, the province will celebrate 150 years in Confederation. And over that history, manufacturing began, and remains, as the backbone of Manitoba's economy. The sector creates wealth, jobs and prosperity for the keystone province.

Today, manufacturing represents the future of Manitoba's economic well-being. With a massive revolution from Industry 4.0 on the horizon, and increasing competition from around the world, Manitoba manufacturers are exporting made-in-Manitoba products to every corner of the globe, telling our stories and sharing our products on a world stage. As we prepare for the next chapter in our province's story, how better to prepare for the future than to honour the pioneers, trailblazers and leaders who build Manitoba's economy into the diversified success story we see today, and inspired a new generation of leaders along the way.

CME celebrates Manufacturing Week 2020 with our Dare to Compete Conference (March 24) and the Gala Awards Dinner (March 26). These premier events showcase our province's leadership in industrial innovation, ingenuity and entrepreneurial excellence, while also giving manufacturers opportunities to share best practices, learn from the best in the business and accelerate their learning. Whether you are an aspiring business owner or a well-established manufacturer, Manufacturing Week has something for everyone.

Join me this March as we come together to learn and celebrate the prairie spirit that makes Manitoba a special place to work, live and play, and home to so many members of the manufacturing Hall of Fame!

Ron Koslowsky
Vice President, Canadian Manufacturers & Exporters Manitoba

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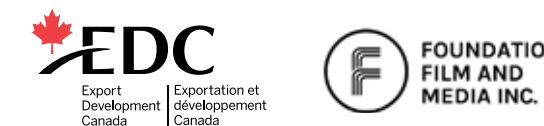
PIONEER AWARD Ernest Guertin (Awarded posthumously)

Celebrating individuals who began a manufacturing business in Manitoba and nurtured it into a successful company.



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SKILLS 4.0

Another industrial revolution is upon us, but are our people ready?

By David Quinn

ALL PHOTOS COURTESY: MITT / DAVID LIPNOWSKI PHOTOGRAPHY

Let's start at the very beginning. Flip open a history book, and you'll probably see mention of the Industrial Revolution (what we now know as the First Industrial Revolution).

It was a period from about 1760 to sometime between 1820 and 1840, during which industry transitioned from hand production methods to machines, new chemical manufacturing methods, and iron production processes. Use of steam power and waterpower increased significantly, as did the development of machine tools and the rise of the mechanized factory system.

Accompanying this shift in industry came an unprecedented rise in the rate of population growth across Europe and North America.

Then, in the period from about 1850 into the 20th century, came the rise of mass production of products such as steel, chemicals, petroleum refining, and eventually the automotive industry. In this time, around the 1890s, we started to see the creation of the world's first giant industrial corporations, including U.S. Steel, General Electric, Standard Oil, and Bayer. The Second Industrial Revolution was upon us.

Rise of the computers

Sure... you'd think with the emerging pattern that we'd be talking about the Third Industrial Revolution. Not so fast there, dear reader.

Depending on who you ask, the next revolution – the Digital Revolution – came about anywhere from the late 1950s to the late 1970s. In this shift we saw a multifaceted shift from mechanical and analogue electronic technologies to digital electronics and the rapid, widespread deployment of digital computing and communication technology during and after the latter part of the 20th century.

In this Digital Age, driven by the mass production and mass use of digital logic systems and integrated circuit chips, we've seen pretty much everything in our world change, including manufacturing and business techniques. It's the computers, the micro- (and now nano-) processors, digital mobile communications, and the Internet that ushered in a period of technological and societal change that had never before been seen.

Today, we're at yet another threshold of revolutionary change – Industry 4.0

What is Industry 4.0?

Ask a hundred experts for the definition of Industry 4.0, and you're sure to get at least a hundred different answers. But they'll agree that the shift is real, and it's happening today.

We're in the midst of a significant transformation regarding the way we produce products thanks to the digitization of manufacturing. This





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In order to realize the full potential of Industry 4.0, the manufacturing sector and its workforce needs constantly developing skills, knowledge, and capabilities to thrive in this complex, ever-changing environment.

transition is so notable that it is being called Industry 4.0 to represent the fourth revolution that has occurred in manufacturing. This fourth industrial revolution takes what was started in the Digital Revolution with the adoption of computers and automation and enhances it with smart and autonomous systems fuelled by data and machine learning.

It's not just 'more computers'

As Industry 4.0 unfolds, computers are connected and communicate with one another to ultimately make decisions without human involvement. A combination of cyber-physical systems, the Internet of Things and the Internet of Systems make Industry 4.0 possible and the smart factory a reality.

As a result of the support of smart machines that keep getting smarter as they get access to more data, manufacturing will become more efficient and productive and less wasteful. Ultimately, it's the network of these machines that are digitally

connected with one another and create and share information that results in the true power of Industry 4.0.

While Industry 4.0 is still evolving and we might not have the complete picture until we look back 30 years from now, companies adopting the technologies are already seeing Industry 4.0's potential. These same companies are also grappling with how to upskill their current workforce to take on new work responsibilities made possible by Internet 4.0 and to recruit new employees with the right skills.

It's still about the people

The disruptions brought by Industry 4.0 are met by other large scale societal and demographic shifts such as further globalization, an aging population and increasing diversity within the workforce. There is an expectation that this period of change will be as disruptive as the original industrial revolution, if not more so.

Organizations such as the World Economic Forum, the International

Labour Organisation (ILO), McKinsey, and PwC believe it will change the way we work and live, with implications for individuals, learning institutions, and the skills system as a whole.

In order to realize the full potential of Industry 4.0, the manufacturing sector and its workforce needs constantly developing skills, knowledge, and capabilities to thrive in this complex, ever-changing environment.

As go the jobs, so go the people?

Trevor Lewington, CEO of Economic Development Lethbridge and former Plant Manager and Manufacturing Director for Western Canada with PepsiCo Foods Canada says that the shift taking place in industry is not about getting rid of people.

"It's the opposite," says Lewington. "It's about getting rid of the jobs in our plants and companies that suck - so much that no one wants to actually do them - or are simply too dangerous to people's health and safety despite all the protective measures available."

Lewington comments, "specific jobs or tasks might disappear, but there's no need to make the people disappear. We can - and should - retrain and upskill our

Continued on Page 40

LEARNING ON THE JOB



**MANITOBA INSTITUTE OF
TRADES & TECHNOLOGY**

As part of its industry-driven, student-focused approach to career and lifelong education, MITT provides workforce development solutions that fit a learner's life—which can sometimes mean taking lessons outside of traditional classroom hours or beyond the walls of MITT campuses.

In 2019, the Winnipeg Fleet Management Agency (WFMA) approached MITT for help optimizing a CNC machine which would allow them to cut, punch, and shape materials as they deemed necessary and maximize their work.

There was just one problem: none of the employees had strong skills with a software called AutoCAD, which translates two- or three-dimensional drawings into commands the CNC machine then performs, for example, punching holes into metal to create public pool drains.

Dave Gaudreau, Supervisor at WFMA, approached MITT and was put in touch with Jill Latschislaw, Senior Manager, Workforce Development and Community Initiatives.

"Any time there is a need in the workforce, whether in numbers or skills, we're going to do our best to help fill it," says Latschislaw. "In the case of WFMA, it meant sending our instructors over to them to teach the AutoCAD program so they wouldn't be pulled away from their jobs."

A few short months after their meeting, MITT developed a program, put instructors in place, and set up a training timeline that would minimize disruption of workflow in the busy shop. Three employees took the training over winter, another three in spring, and today the CNC machine is an integral part of their operation.

"They're drafting things on the AutoCAD system now and then plugging it into the CNC machines," says Gaudreau. "It's been quite a success. They're using it every day."



In addition to the work-related skills taught with these programs, MITT can incorporate on-site language training. This can be determined by the team through a client needs assessment prior to development of customized curriculum.

At Mackow Industries, English is a vital asset to employees, and proficiency in the language helps optimize their productivity, efficiency, and safety. MITT developed a curriculum for their employees focused on production and safety vocabulary and terminology, and assisted their involvement with applying for the Canada-Manitoba Jobs Grant.

"MITT was a great support in ensuring our application was well developed, and they were always ready to answer any questions we had," says Tess Garcia, HR Manager at Mackow Industries. "Not only with the application but also providing clarity on the training that we need for our employees."

The language training provided is comprised of four segments, each designed to develop language skills further: workplace communication, conversation management, personal management, and diplomatic English. Whether it be learning to interact and behave in the Canadian workplace, practicing appropriate body language, or simply earning a grasp of the language to be able to take part in meaningful conversations, MITT's language training doesn't skip a beat. 🇨🇦



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people so they can take on the new jobs and be able to thrive into the future.”

Driving an education evolution

For Ray Karasevich, President & CEO of Winnipeg-based Manitoba Institute of Trades & Technology (MITT), the transformation of Industry 4.0 is an opportunity for the post-secondary education sector to innovate its programming, collaborate more with industry, and educate learners through lifelong connection and engagement.

“We’re continually evaluating and looking at changes to our programming to ensure we’re keeping at the front of the changes that are happening in industry,” says Karasevich.

“We constantly engage with industry to keep up on what’s shifting in the world of manufacturing, be it technology, practices, specific skills requirements, or gaps that employers might be finding in their workforce.”

When asked if it’s the education institutions or the industry employers driving the changes, Karasevich noted it’s a collaborative effort, however MITT’s industry driven ethos requires that education solutions respond directly to the needs of industry including rapid technological changes.

“We still include what we call essential employability skills in all our programs,” said Karasevich, “but the specific skills considered ‘essential’ today have changed to match the shift in industry – digital literacy, technical communications, adaptability to change, continuous and lifelong learning principles.”

“We deliver not only the technical knowledge in our programming, but also the surrounding non-technical skills and knowledge, including having industry

leaders and experts come and speak to our students about what life in industry is really like,” says Karasevich. “We call these sessions our Work Skills platform.”

For Karasevich and his MITT team, ensuring the institution and its students remain at the top of their game is critical.

“We have a cutting-edge learning lab for our print and manufacturing production program, and we’ve recently announced a new centre of excellence in cybersecurity. These are just a couple examples of how we’re uniquely positioned to respond to identified needs within industry.”

Says Karasevich, “collaborating with industry is critical to our work. We want to be a training institution of choice for employers and workers across the manufacturing sector and keeping in close contact ensures we can meet their needs today and well into the future.

Skills with a side of challenge

Staying at the leading edge of education in today’s labour market is not an easy job. With the demographic shifts underway – especially in more mature industrialized economies – the aging population is going to be a significant hurdle to economic sustainability, let alone economic growth.

According to Mark Frison, President & CEO of Assiniboine Community College in Brandon, the colleges and technical institutes in provinces like Manitoba are being challenged on a number of fronts, including demographics, social, geography, and financial.

“In the Manitoba ecosystem, we’ve got eight public post-secondary institutions – including universities – and Red River College and Assiniboine, we account for essentially one-quarter



of the college system. We serve the majority of students in that space, and those students are changing, Frison says.

“In the last decade, we’ve seen a trend across Canada where growing numbers of students who already hold diplomas and degrees are coming back to college for a program of study.”

Frison says Assiniboine Community College is changing its program mix to account for this shift in the student profile. “We’ve added five new advanced diplomas in business, one in geographic information systems (GIS), one in sustainable food, and another in agriculture.”

Beyond the addition and adjustment of longer or full-length diploma or degree courses, Frison says colleges like his are meeting the needs of today’s busy employers and learners by offering micro-credential programming.

“We compress the material in a variety of ways into smaller pieces of

learning that’s focused on very specific needs,” says Frison. “We need to offer the learning in a way that works for students and industry. We also need to be sure we’re not pushing credentials or courses that simply make us [the college] look bigger or more prestigious – it always has to be about the student.”

No crystal ball

Frison says that he and his fellow college leaders face a future full of unknowns, just like businesses in every sector of the economy. But one thing he knows for sure: there needs to be a significant increase in the proportion of the total population participating in some sort of post-secondary education in order to be prepared for the job market – today and beyond.

“In Manitoba, we have one of the lowest participation rates in the country for post-secondary, so we will have a gap between the number of people going to university or college and the number of jobs that are going to require a university or college education,” says Frison.

The key to the future

So, if we’re facing a challenge of our students not being prepared for



the jobs of today – let alone the jobs of tomorrow – what hope do we have?

Actually, a lot, according to Bev Stuart, Associate Vice President of Business Development and Strategic Initiatives at MITT.

“We still have so many target audiences – like Indigenous peoples, women, seniors – that we can better engage in the manufacturing workforce,” says Stuart. “There’s going to be opportunity throughout the industry for people from all backgrounds and of all abilities.”

The key to engaging with this expanded workforce, and in a way that will allow industry to take full advantage of the Industry 4.0 transition, is training.

“Industry has access to institutions like ours, but sometimes they just don’t think about us. They’ll often think about

the larger colleges, like Red River, but that might not be the right pathway for them at that point in time,” says Stuart. “It’s really key to find the right training, at the right place, at the right time.”

“We’re an industry-driven institution,” says Stuart of MITT. “We have industry at the table all the time for consultations, teaching, and even providing industry exposure for our students.”

“We want to work with industry to ensure they’ve got the employees they need, with the skills they need, and at the point in time they’re needed,” says Stuart.

“It’s really quite easy for manufacturers to get started with training, be it custom, group, or whatever. They just need to call us, and we’ll work with them to find the solution that will work for them.”

Says Stuart, “it’s just about getting started, then keep on going.”

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Mind the gap

By Carrie Schroeder

Decades of research points to a gender wage gap in Canada – one that as a country, we're sadly failing to close.

On average, Canadian women earn 87 cents for every dollar earned by their male counterparts. The reasons behind the gap are complex and rooted in social norms, gender roles, and career choices, but the fact that remains that the decision to have and raise children is part the issue. In short, we have a mother (and father) of a problem.

At the same time, manufacturers continue to identify labour shortages as a key concern for their business performance heading into the first few quarters of 2020.

A recent CME survey of more than 225 manufacturers across Canada delivered results that are less than surprising: 85 per cent of manufacturers struggle to fill vacancies. Labour and skills shortages are holding back manufacturing, and by extension, Canada's economic prosperity.

It's one thing to be experiencing a labour and skills shortage, but it's another issue entirely if companies are not trying to engage with potential pools of employees they have traditionally left untapped.

In the case of manufacturing, employers have generally failed to attract one obvious source of labour: women.

In Canada, women account for 48 per cent of the workforce but only 28 per cent of the workforce in manufacturing. By and large, it's a segment that comes ready to work with shared language, culture and (when comparing post-secondary enrolment trends) suggests higher levels of education. However, for more than 30 years the gender breakdown in the manufacturing industry has not changed.

Manufacturers must step back and examine the message they are sending to women in their organizations – not just in the words we choose and mission statements we adopt – but in the hard facts, figures, and data points.



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If you're in a position of leadership within a manufacturing organization, I strongly encourage you to undertake a company-wide payroll analysis by gender. What numerous labour market analyses tell us, and your results will likely support, is that the parenthood

penalty may mean you are losing talent to more conscious competitors.

As women (and increasingly men) take short-term leaves from their careers for childbirth and parental leave, they often return a step or more behind their counterparts. Two similarly qualified

candidates will quickly fall out of sync, no matter how equal their contributions.

To stay competitive, manufacturers increasingly need to attract the best talent available in their industry and eliminate barriers to retention, such as outdated parental leave or



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In Canada, women account for 48 per cent of the workforce but only 28 per cent of the workforce in manufacturing.

compensation policies that no longer align with a vision to attract, and keep, the best talent in the market.

According to Forbes, the average salary increase when a candidate changes employers is approximately 10

to 20 per cent. A minimal investment in parity could not only reduce your turnover and recruitment costs by a significant margin, but more importantly, position your company as an employer of choice and a champion

of inclusion and diversity – factors that are increasingly important to today's job seekers. What's more, new hires usually come onboard in the median range of salary distribution for a role. Replacing an employee instead of adjusting their compensation may in fact cost you significantly more in both risk and reward.

So, what can today's smart manufacturer do about it?

Complex problems often appear impossible to solve, but we can control our own sandboxes.

Analyze your payroll, determine the root causes of any discrepancies, put the right policies and procedures in place and make the effort and commitment to sustain these efforts. Should you choose to take your review a step further, a legal review including best practices and competitive analysis can help to inform whether or not you're doing the 'right' thing on all accounts. Additionally, organizations like CME can help by providing information, resources, and connections to recognized experts.

Most forward-thinking companies intentionally seek out diversity in all its forms. Diversity is a driver of innovative thinking and is as important to competitive performance as strengths in other core business skills. If you're not undertaking practices that actively invite and welcome different demographics, including women, you risk falling short of your competitors when it comes to attracting and keeping the talent it takes to stay at the forefront of the next industrial revolution.

Today's workplaces need employees that can multi-task, work under tight deadlines, handle pressure and stress, and still perform. Who better than parents – and specifically mothers – for the job? 🙋

Carrie Schroeder is Director of Operations for Canadian Manufacturers & Exporters (CME) in Manitoba, and is one of the driving forces behind CME's Women in Manufacturing initiative. To learn more, visit womeninmanufacturing.ca

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The Joy of Flying to Heights and Distances Previously Unimaginable

By Richard Sheridan

After centuries of trying and failing, we finally discovered the relevant principles of powered flight and, in just a few short years, we were able to fly to heights and distances that were previously unimaginable, even for those who invented the airplane.

Companies and teams want to fly

My managerial and leadership career that began in my 20's and 30's felt like the equivalent of strapping feathered wings to my arms every day while trying to get the teams I was leading off the ground. I would come home tired from the effort and mentally exhausted from the lack of results. By my mid-30's I was burning out. I was convinced there had to be a better way. My optimism was fueled by authors like Tom Peters and Peter Drucker. Their books convinced me that the pursuit of joy in business was a worthy and practical pursuit.

A company that discovers the relevant principles of organizational flight can also fly to heights and distances that were previously unimaginable and, in doing so, can experience the business value of joy. By simple analogy, an airplane whose weight exceeds its lift capacity will never get off the ground. The weight of a human organization can be measured in disengagement statistics. If 80 per cent of a company's workforce is disengaged, the remaining 20 per cent cannot lift the organizational aircraft off the ground.

If we could swap those numbers, imagine the possibilities.

Your Why is essential, but the How is a close second

Simon Sinek famously exhorted *Start with Why*, but after you understand your *Why*, you must consider your *How*. This is why organizational design is so important.

The Principles

Let's take a look at a plane and compare the forces and principles of flight to those of a human organization.

A plane has four basic forces at work: lift, weight, thrust, and drag.

The positive forces of lift and thrust are what get the airplane off the ground and flying towards the destination. The counter forces of weight and drag are unavoidable. Yet, we can, through proper design, minimize them. If we think of our human organizations in this same way, we can understand what lifts our team, what weighs them down, what propels us to a worthy destination, and what produces drag.

Let's look at each of these individually.

The Thrust of Purpose

People are naturally inclined to work together in teams, particularly when that work is focused on a worthy external goal. When we speak of joy at my company, we believe that joy comes to teams by having great and authentic answers to these questions:

- Who do we serve?
- What would delight look like for them?

By focusing on the delight of others, we derive a deep sense of satisfaction and thus feel a meaningful sense of worth about our hard work. Our job as leaders is to fully communicate the shared sense of worthy purpose of our organization.

Our Thrust of Purpose is defined by our **Why**.

Lift of Human Energy

We must consider as leaders that the human energy of our teams is something that should be guarded, protected and nurtured. At our company, we do many things to lift the energy of our team.

Our work processes do not expect multi-tasking, then program it out of the equation. You and a pair partner (yes, we work in pairs) are allowed to focus on a single task until you get it done. If you get stuck, you can suspend that work and move on to another task already outlined. In this way, two elements of our culture feed the energy of our team:

- Sufficient time is provided to get meaningful things DONE
- An elimination of the waste of waiting.

All teams can get work done, whether energized or not. Most would agree that high-energy teams get more and better work done.

The Weight of Bureaucracy

If every decision requires a meeting, a committee, an approval or a policy check, your organizational plane will never get off the ground. The weight of this approach will counter any other human energy you have mustered. Eventually this weight will destroy any motivation to fly because it will be clear to everyone that flight isn't possible because no one has ever seen it occur.

Meeting overload, email boxes impossibly filled with URGENT messages, multi-step approval systems for even trivial purchases will add weight to a team that cannot be overcome. The lack of trust these systems portray is evident to everyone.

As leaders we must consider the standard processes and procedures we use to "manage" our teams and ask the questions:

- Is it necessary, really necessary?
- Does it slow things down?
- Does it communicate that we don't trust our people?

The Drag of Fear

I was taught to lead in my earliest days by trying to motivate others with fear. It didn't work for me when I was being led in this way, and it never worked when I was elevated into leadership. It was, however, the only example I knew, so I mimicked it in my early leadership days.


Fear is present in so many management systems it is likely hard to imagine its absence:

- The dreaded annual performance review
- Cutting the lowest 10 per cent of the ranked workforce
- Most in the company only "Meeting Expectations" when given a review
- A zero-sum game economic reward system where the more I give to one person, the less I give to another
- The public elevation of individual heroes over team achievement
- Courtyards, palaces, and high-floors in office towers for top leaders
- Gatekeepers for bosses who have declared they have an open-door policy

Fear steals away the most human part of us because when we are afraid, we scale back our humanity to our primitive reptile brain, and then we lose the most important element of our teams, the part where we can express the most human qualities: creativity, innovation, invention and imagination.

The Payoff

If our organizational aircraft is properly balanced and designed, we can fly to heights and distances that were previously unimaginable. In doing so, the amazing benefit is that the work of leadership is lessened dramatically.

With joy as your fuel, I wish you a safe and happy flight to wherever you are going. 

Richard Sheridan is CEO of Menlo Innovations, author of Joy, Inc. and Chief Joy Officer.

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Sophie has been through some extraordinarily difficult times, yet still has the heart and hope to dream big. And Sophie's dream is BIG! She hopes to visit Japan to visit Tokyo, ride the bullet train, and spend time with her Gramma. You can help make Sophie's dream a reality.



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5

QUESTIONS

about drug testing in manufacturing

With Jeff Lester, president of SafeCare Canada

What are some signs that an employee might be impaired at work?

Work place impairment falls under a number of categories. In order to correctly assess an employee who may be impaired at work, we have to look at several factors such as behaviour, unusual actions, speech, balance, and odours.

It can be easy to tell when someone is not themselves and is acting differently. Of course, there could be other underlying circumstances behind the behaviour, such as new prescription medications, relationship breakups, or even a death in their family. Even though these factors are not impairment from drugs or alcohol, they can be just as dangerous because your attention is not focused on the work at hand.

The most common ways to tell if there is impairment in the workplace and if there is a risk to other employees is if there is non-compliance with safety practices and policies are near miss accidents, information from other employees concerned for their safety, or recognizable changes in behaviour.

Some common signs of impairment are slurred speech, loss of balance or coordination, slow reactions, being uncooperative and quarrelsome, excessive fatigue or sleepiness, excited and rapid movements, being overly talkative and rambling on about unrelated topics, arguing their rights or position leading to fighting, confusion and unable to complete tasks of their position, and even sweating and nervousness around supervisors. The most common sign is odour of alcohol and/or marijuana and a general lack of coordination.

What different types of drug testing are available to use in the workplace? Is there a 'best' test?

There are a variety of types of testing for impairment in the workplace: visual assessment, saliva testing, urine sample, hair follicle and blood testing methods commonly used for drug testing. Alcohol testing can be achieved by a urine sample testing cup, or hand held breathalyzer analyzer.

Each method has its advantages, disadvantages, and limitations, and it really depends on your company's particular situation as to what will be a 'best' method of testing.

It's completely up to the tester as to the testing methods or devices to be used, and the selection should be determined by the environment you are testing in, what you are testing for, and any concerns about invasive or non-invasive procedures.

Are employers allowed to submit employees to drug tests?

Yes, but there's a 'but'.

In almost all cases, employers can't ask job candidates or employees if they have an addiction or use drugs recreationally, but certain circumstances override those rules. The onus is always on business owners to ensure that they are conducting themselves lawfully and structuring proper drug and alcohol policies to prevent impairment in their workplace. We always suggest that employers have their policies reviewed by an employment lawyer.

What can an employer do to stay ahead of potential drug use issues in their workplace?

Employers can, and should, have ongoing and consistent communication with their employees about expectations, rules, policies, and what is and isn't allowed or acceptable. With the changing landscape of drugs – recreational and otherwise – in Canada, there are going to be plenty of challenges and blind spots of which everyone will need to be aware.

For example, with the legalization of edible cannabis, employers can't realistically start testing employees' lunches for drugs but instead need to provide clear communication about what is and isn't acceptable. As for when an employer can or should test an employee for drug use, it would depend on their company's policy.

The best way to keep ahead of any issues is to engage with the experts and resources available to you: workers compensation boards or the provincial workplace health and safety department, your lawyer, your local health region, or an industry association.

What inspired you to get into drug use testing?

My interest was inspired by seeing firsthand the impact that drugs have. A close family member was using drugs, and the cycles of destruction that come with abuse and addiction reach into every part of a person's life, including work. Eventually, as an employer, that situation got me thinking about ways to deter drugs from being consumed in a workplace environment.

Owning a variety of different companies prompted me to look into my own workforces and identify a strategy to prevent dangerous situations that could occur due to an employee being impaired. As an employer, I'm responsible for keeping my employees safe and I take that role very seriously. [†]

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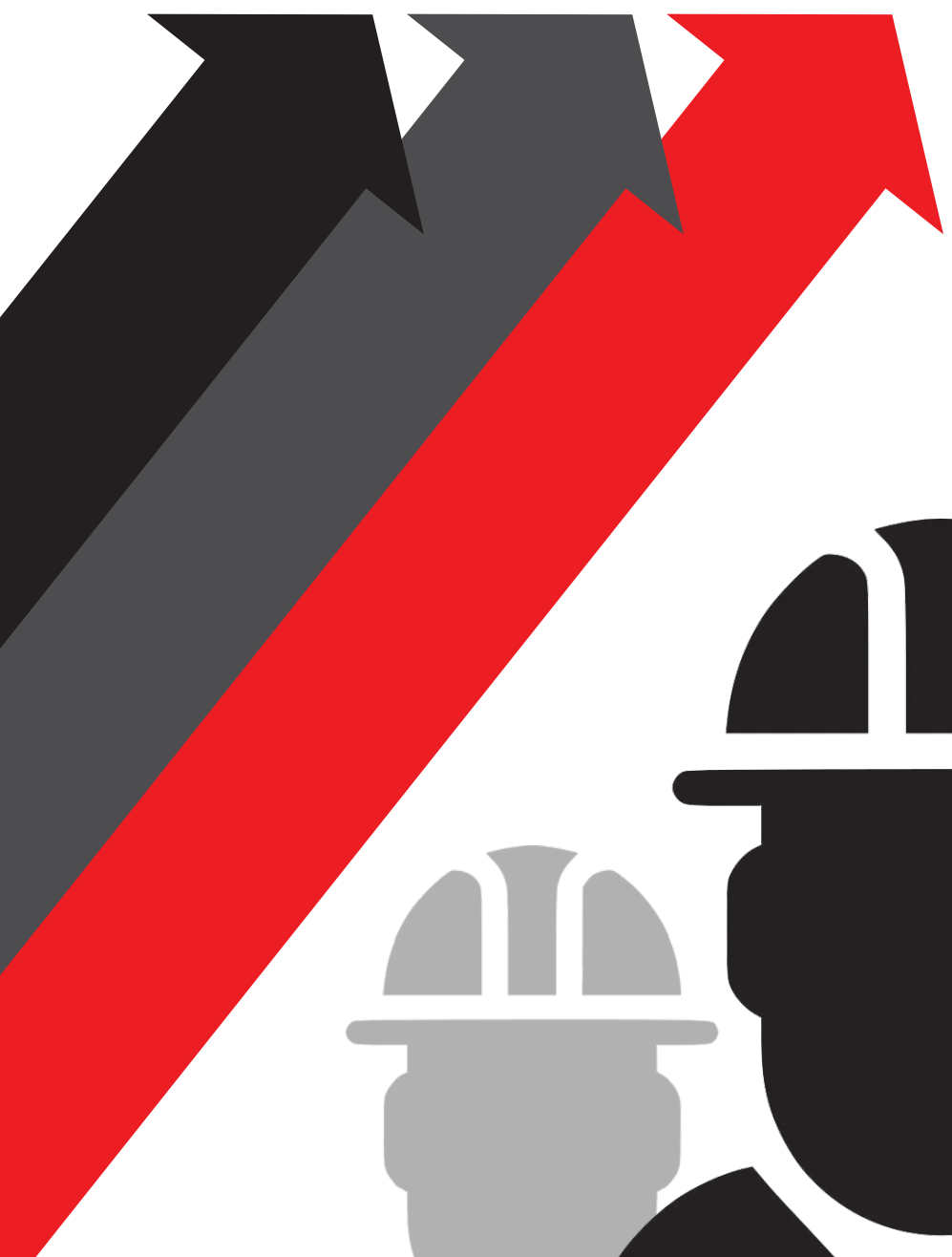


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Safety: *it's a team effort*

If safety doesn't permeate every level and every position in your company, are you really that committed?

By Steven Hnatishin



Every company is either leading or lagging in terms of safety and health. They're either proactive or reactive. (Hint: you want to be proactive when it comes to safety!)

Regardless of your starting position, the pathway from reactive to proactive is a team effort. Transforming your company and its workforce into a more efficient, effective, and cohesive unit must include the involvement of safety and health for your teams.

The current state might include responsibilities misguidedly landing on the shoulders of a single designated

health and safety person. This individual is performing inspections, investigations, creating safe work procedures, creating policies, and maybe even doing a 'regular job' on top of all that.

This is not only non-compliant with safety legislation, it's not supportive of a strong safety culture in your company. If we design our safety systems so that only one person owns and is responsible for them, we can end up isolating the safety program from some of the operations greatest resources: supervisors. And we may actually be underutilizing the potential skills of those supervisors.

What should safety look like?

The ideal state needs to be a strategic team effort involving all stakeholders: owners, managers, supervisors, workers, committee members, and everyone in-between. In organizations where the full team takes on safety, we see the workload being balanced with each stakeholder contributing to the safety management system. The safety person or team is then able to function as intended - as a resource to assist everyone in the business in fulfilling the legislated responsibilities.

This ideal state is effectively supported by our minimum legislated requirements. Spend some time analyzing the legislation and you'll see a pattern begin to form: "Responsibilities of supervisors" ... "responsibilities of managers" ... "responsibilities of workers."

This is the common thread. Each of the stakeholders group have their own responsibilities that line up with their level of authority. These stakeholders need to be aware of the responsibilities they have under legislation.

By properly training supervisors, you can help ensure that they and their teams are meeting these responsibilities. Training supervisors on what their responsibilities are - and how to fulfill those responsibilities - is a critical element of due diligence.

Standardize your safety

Standardization of process is a familiar theme in manufacturing. A stable process is the goal of nearly every production and quality management system. Address safety in the same manner. Make it another standardized process to include with production.

When safety is included in the larger planning and execution work, all functions of the production process will move forward together. Trying to sprinkle in safety as an afterthought is not setting ourselves up for success, let alone a safe working environment.

Clear responsibilities and accountabilities are paramount to the success of the safety management system. Supervisors play a key role in ensuring day-to-day operations are effective, and they can also prioritize the delivery of the tools for success with safety. Not including a plan for providing training on safety and health responsibilities for supervisors is basically planning failure into the system.




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Investing in safety pays

Training your supervisory team is a commitment, no doubt. Even with access to specific training programs from organizations, like Made Safe, there will be a cost for your team to attend. However, the value proposition for this training is how you're able to capitalize on the improvement in safety

performance and the increased stability of your manufacturing process.

The decrease in frequency of incidents, severity of incidents, property damage, down time due to investigations, and non-conformities with legislation is your return on the investment in training. A decrease in your WCB premium rates can add up to significant savings that

will positively impact your bottom line. Fewer resources spent on reactive measures means more resources available for achieving proactive company goals, including and beyond a safer workplace.

You have to make safety happen

When I talk to manufacturing leaders, it becomes very clear that supervisors are craving the knowledge they need to ensure the safety and health of their teams. They never want any member of their team to be injured or killed because they were simply doing their job.

There are countless safety training programs available in the market today, so it can be overwhelming to try to find the programs that are right for your company and your needs. But don't let that scare you off. There are organizations and people out there who can help you find the best and most effective training for your team.

I encourage you to reach out to your industry association, your local workers compensation provider, a local education institution, or even other companies in your area for information and recommendations. There is a program for you, and it's always possible to make it work for you and your team. You just need to make the call.

As Max Depree, author of *Leadership is an Art*, put it: "In the end, it is important to remember that we cannot become what we need to be, by remaining what we are." There is no better time to start the transformation than now. ¶

Steven Hnatishin is Program Manager with Made Safe. He leads a team that provides Manitoba manufacturers with a comprehensive suite of training and services to accelerate workplace safety progress. Steven's safety philosophy is "When you have a great team everything is possible!" Visit www.madesafe.ca for more information.



Above: Jillian Ray, Safety Coordinator at Bothwell Cheese

BUILDING THE FOUNDATION FOR A SUSTAINABLE SAFETY CULTURE

Nestled in the heart of the prairies in New Bothwell, Manitoba, Bothwell Cheese has been producing award-winning cheese since 1936. Deeply rooted in history and tradition, its product line of over 20 varieties of cheese are made with fresh, locally-produced milk.

Bothwell Cheese is committed to making a difference for the community, employees and customers. Having grown from three to more than 120 employees in recent years, the company is setting the standard for cheese producers around the world.

Bothwell Cheese's leadership understood that creating a safety culture was crucial not only to the continuous success of the business but also to the health of employees and consumers as the company grows. Despite a strong safety record, management felt it was necessary to strengthen the foundation from the ground up to create an environment in which safety was a key measure of the company's performance.

The success of any safety program correlates with the level of accountability that exists in an organization, and Bothwell Cheese was committed to refining policies and improving safety efforts.

But a food manufacturing facility has unique and complex needs and requirements. Improving safety would require more than in-house experience; it would require expertise.

Enter Made Safe. As the industry-based safety association for manufacturers, the association provides health and safety services tailored for the needs of the manufacturing work environment. With services by manufacturers, for manufacturers, Made Safe's team understood what the company needed and were able to provide timely, relevant and tailored supports in the development of a robust safety management system.

Says Jillian Ray, Safety Coordinator at Bothwell Cheese, "what stood out to me the most was how quick the Made Safe team was to help or jump in where needed. They were always available and did whatever they could to answer my questions as quickly as possible."

Not only was Made Safe's team of trainers and advisors available to coach, mentor and support Bothwell Cheese on their journey to safety certification, they were also able to provide a wide range of consulting services at no additional charge to the company, including respiratory fit testing solutions, spill kit assessments and more. What's more, Bothwell Cheese had historically relied on various third-party providers to provide these services but with Made Safe, a one-stop shop for expertise and guidance was readily available at every step of the journey.

Adds Ray "the biggest benefit to joining Made Safe was access to resources we wouldn't have otherwise. Being in the Manufacturing Dairy



Products rate code meant we had to pay into the Direct Levy Membership in order to access the Made Safe services. It was an upfront cost; however, it paid for itself over and over again in the training we accessed. Having to contract out those services would have cost us significantly more and it would be hard to find companies that are as easy and accommodating as the Made Safe Team is. Overall the levy fee was a no brainer for our membership to Made Safe."

Today, Bothwell Cheese is a SAFE Work Certified by Made Safe manufacturer and is entitled to the many benefits, including a 15 per cent rebate on WCB premiums. But the financial business case is only one part of the story. The most significant benefit to Bothwell Cheese was to demonstrate to staff members the company's commitment to their safety. It shows every employee that the company isn't afraid to put the work in to be the best and get them home to their families and the community at the end of every shift.



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www.saskchamber.com

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April 29-30, 2020
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www.aecalberta.ca

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Design Engineering Expo (DEX)

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www.dexexpo.com

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www.awmac.com

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www.mbaairshow.ca

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Made in Manitoba Golf Tournament

July 22, 2020
Winnipeg, MB
www.cme-mec.ca

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August 26, 2020
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www.mbaerospace.ca

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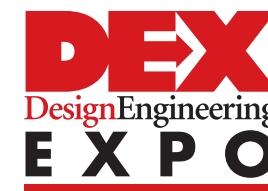
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Change for the Better at Duxton: ACCELERATING CHANGE THROUGH LEAN GREENBELT



Above: Aynsley Dueck, Anthony Catalano, Cody Janz, Freddy Merando and Darryl Hall.

Duxton Windows is a window and door manufacturer and the brainchild of Al Dueck; an entrepreneur who envisioned a family business as a means to build a brand with longevity. Dueck wanted to use innovative products to create hometown jobs and pass a legacy on to the next generation.

As a manufacturer of high-quality fiberglass products, Duxton serves light commercial and residential markets across the prairies, into the far north and the United States. The company maintains a three-part focus on energy efficiency, durability and design responsiveness. At Duxton, management believes in leading with heart and helping people grow their careers.

Fulfilling their founding vision of creating jobs and opportunities for Manitobans, the company makes every effort to promote and grow employees from within. From the shop floor, to lead hands, to management and beyond – Duxton is passionate about people.

THE POWER OF PEOPLE

But with the pressures facing Canadian manufacturers in today's market, it's not enough to bring passionate people on board. To go further and compete on a world-stage, every part of the organization needs to align to a single true north.

For Duxton, this meant eliminating the barriers that were holding the company back from achieving its long-term vision. Production constraints, disorganization on the shop floor, over processing and rework all had expensive consequences. Following the Toyota Way was all well and good, but how to get started?

At Duxton, the journey started small. Initially, the company experimented by sending a few key employees to Lean Level I Yellowbelt training.

Soon after, little changes began happening on a daily basis – and adding up to big results. The company was hooked. But a bigger commitment was needed to create a culture of change and sustain improvements. That's when Duxton decided to pursue the Greenbelt program.

With Greenbelts on staff, the company would have the right people in the right places with the right skills to effectively lead continuous improvement activities, deliver training and facilitate rapid improvement projects within their own organization.

A CULTURE OF CHANGE

Greenbelt training helped guide the company toward more strategic plant layout decisions and equipment purchases. Duxton's team found the most value in the real-life applications, not just training simulations. Most notable about the transformation was the impact of educating plant floor staff and motivating them to embrace change.

A visual system of daily targets on the floor ensures that everyone, no matter what role, understands how their work impacts the bigger company performance and mission. Staff are now trained to pull together in the same direction, with clear messages that help align everyone in the organization.

And that's not all. Through the Greenbelt initiative, Duxton created a culture of transformation; empowering every employee to own change. Every day, every department dedicates at least 15 minutes to rapid improvements, which is paying big dividends.

Scheduling a Gemba walk once a month allows employees the chance to showcase their improvements to management and explain their work procedures. Staff are incredibly proud of what

they have accomplished and have the visual management tools to embrace metrics related to big picture vision while at the same time, communicating progress up and out. The department with the best monthly improvements is treated to a free lunch; a healthy competition that feeds back into a culture of continuous improvement.

The Greenbelt program impacted the internal culture at Duxton, but the changes are readily visible to outsiders as well. Customers and suppliers who walk through the factory regularly remark on the difference from previous visits; including new plant layout, better organization of tools and supplies at point of use, more efficient cell design and flow and much more.

ACCESS TO EXPERTS

Perhaps most importantly, Duxton has been able to rely on the experts at CME; both as facilitators during Greenbelt training (CME trainers are either Lean Blackbelts, or Master Blackbelts with decades of industry experience) and afterward, through coaching and consortium participation.

Ask anyone at Duxton and they'll tell you that the biggest benefit of the Greenbelt program has been a daily commitment to change for the better. At 365 improvements per year, for the past three years – more than 1,000 step improvements have been made on the journey towards



Above: Three generations of Duecks

ideal state. Lean programs taught Duxton how to properly measure cycle times, and how to think about TAKT time and create a better rhythm through the plant to reduce work in process. Cycle times have been reduced by more than 20 per cent. Greenbelts on staff have also organized company-wide in-house Lean 101 training for staff, which is poised to make a big impact.

It can be daunting for growing organizations to step back and invest in change while at the same time navigating the complexities of today's manufacturing world. But you don't have to go it alone – CME experts are here to help. With programs designed by manufacturers, for manufacturers; CME has Lean and productivity supports tailored to different stages of the Lean journey.

Whether you're just getting started, or are interested in accelerating your own productivity improvements, connect with CME's team of Lean experts today and take advantage of the power of the network.



“Ask anyone at Duxton and they'll tell you that the biggest benefit of the Greenbelt program been a daily commitment to change for the better.”

CME Greenbelt

This intermediate-level course helps to further enhance the skills needed to apply core Lean principles in the workplace.

This “learning by doing” style of Lean certification program is delivered by Lean Blackbelt certified coaches.

Structured into three week-long modules, participants will develop and improve their presentation, communication, teamwork and facilitation skills through group exercises, simulations, Kaizen blitzes and practical assignments.

Upon completion, participants will be able to effectively lead continuous improvement activities and deliver training and facilitate rapid improvement projects within their own organizations.

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Innovating in the Heartland

The National Research Council of Canada is increasing opportunities for collaboration to build on Manitoba's reputation for innovation

By Vance Chow

In recent years we've begun hearing more about the concept of Industry 4.0 – a broad term referring to the growing industrial trend of adopting automation and digital technologies. It includes concepts such as the Internet of Things, machine-learning, cyber-physical systems, and advanced manufacturing, often supported via artificial intelligence. But if you're a manufacturer, how do these concepts apply to you and your business? If you're confused, don't worry – you're not alone.

"In fact, a lot of Canadian companies are struggling with this digital transformation," says Mike Kilfoil, Program Director for the National Research Council of Canada's (NRC) Advanced Manufacturing Program. "They hear a lot about it. But how will these new technologies provide value

to their production systems? The NRC plays a key role in helping companies to integrate leading-edge technologies into existing manufacturing processes so that they can be adapted to the new realities facing industry today."

The NRC is building a new facility in Winnipeg, scheduled to open in early 2021, to focus on collaboration – one of the organization's key priorities. More specifically, the aim is to build industry-driven collaborative projects that will lead to transformative outcomes for everyone involved.

Industrial renewal

Stéphan Simard is the R&D Director for the NRC's Aluminium Technology Centre in Saguenay, Quebec. He's been tasked with initiating a stronger NRC

Stéphan Simard is an R&D Director at the National Research Council of Canada (NRC).



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presence in Manitoba. As Simard points out, there are a lot of similarities between Quebec and Manitoba's ecosystems, at least from an industry standpoint.

"Manitoba has a very strong base in terms of industrial innovation," says Simard. "Historically, the big aerospace companies were able to significantly contribute to the local economy. But the region is now facing challenges and opportunities for growth in the field of advanced manufacturing."

This is similar, Simard notes, to the situation that he originally encountered in Saguenay. Throughout the eighties and nineties, aluminium producers increased their smelting capacity in the region, building facilities that leveraged improved production technologies. But as technological and manufacturing processes evolved, the possibility of a decrease in local employment became a challenge.

"The idea was to diversify industry in the region," Simard says. "Quebec's easy access to hydroelectricity made it a magnet for aluminium producers, who needed a lot of electricity to power their smelting facilities."

As the industry continued to evolve, the NRC played a key role as companies in the region looked to find new ways to innovate. For example, for several years NRC researchers in the region collaborated with Rio Tinto and their partners at STAS Incorporated to develop a manufacturing process to produce aluminium parts via semi-solid casting.



"In conventional casting," explains Simard, "liquid aluminium is injected into a die cast press. The semi-solid process that we developed, on the other hand, allows a semi-solid slurry to be used."

Semi-solid casting allows manufacturers to produce aluminium parts at a high rate, with less shrinkage during solidification. This leads to the production of high-integrity parts with improved mechanical properties.

"Working with the NRC has allowed us to develop this unique manufacturing process for aluminium products," says Pascal Côté, Director of Development and Innovation at STAS. "Since the mid-2000's, this new technology has allowed us to access new markets and grow our exports mainly in Asia and Europe. Our ongoing collaboration with the NRC has been a significant driver of this success."

Circular approaches to research and industry

In Saguenay, the presence of the NRC's research facility has become a draw for new enterprises looking to settle in the region. Working with a variety of local industry organizations, such as the Société de la Vallée de l'Aluminium, they've been able to help attract new businesses and foster industrial engagement.

In other words, it's a classic example of research supporting industry, which in turn supports new research, and so on. A similar approach is being taken to foster

engagement with industry organizations and stakeholders across the Prairies.

"We've begun to engage with our counterparts, and we'll continue to do so," says Éric Baril, Director General of the NRC's Automotive and Surface Transportation Research Centre. "For example, we've already met with representatives from CME Manitoba, Food & Beverage Manitoba, local colleges and universities, among others. Our purpose has been to try and better understand where gaps may exist. We want to have a good grasp of what the future needs of stakeholders in the region will be, and how we'll be able to add value and create new capacity, without duplicating existing activities."

"A good research facility can have significant impacts on a community—I know because I've lived it," underscores Simard. "We've been able to help companies like STAS and Rio Tinto to develop and validate new technologies, which are then applied in practical manufacturing processes. And when they want to attract new clients, they often invite people to our research facility for technology demonstrations."

Building for the future

"We want to bring companies and stakeholders together from the Prairies to collaborate, optimize processes, and improve impacts for everyone involved," says Simard. "This is similar to the approach we've taken with our existing

industrial R&D groups. Through our Aluminum Technology group for example, we've been able to convene companies from across the value chain for aluminium products, and provide expertise as well as opportunities for collaboration."

As a starting point, the NRC facility in Winnipeg will focus on two primary thrusts: producing metallic and composite parts via additive manufacturing; and transforming by-products of the local agricultural industry to develop new applications and technologies for sustainable packaging. Other possible thrusts and areas of focus will follow as collaborations evolve.

"We already have the technology to integrate residuals from the agricultural sector in Manitoba into a value chain," says Baril. "Through this facility, we'll further demonstrate the effectiveness of these processes for commercial purposes."

In the end, it's all about helping people understand how they can work together to achieve better outcomes— and optimized processes— for everyone involved.

"As we evolve and adapt our processes to this digital era," says Mike Kilfoil, "we want to help players in the innovation ecosystem better understand the science behind the transformations we're all facing. Together we can be more effective than the sum of our individual parts."

Vance Chow is a Senior Communications Advisor with the National Research Council of Canada.

"Turns out we'd been under-forecasting."

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