

Prairie Manufacturer™

Magazine

Thinking BIG

How Indigenous economic development is reshaping manufacturing on the Prairies



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It has been said that there are three primary ways to generate new wealth in an economy: You can grow it, you can extract it, or you can manufacture it.

For decades, the Canadian Prairies have been synonymous with the first two: An agricultural frontier, rich with both fertile ground and an abundance of natural resources, from potash and uranium to oil and gas.

As commodities cycle, however, and other jurisdictions move aggressively towards value-added diversification, the third leg of our economic foundation — *manufacturing* — is growing rapidly in prominence, as a core driver of prosperity, job creation, and investment.

In 2015 alone, manufacturers across Manitoba, Saskatchewan, and Alberta generated roughly \$100 billion in annual sales, employed 230,000 people, and remitted \$14 billion in wages.

These are more than just numbers. They tell a story of a sector at the forefront of global competition, innovation, and technological change. The companies within it, though, are also competing with the world's best; and to succeed, they require a business climate that is equally world-class.

That is precisely what *Prairie Manufacturer Magazine* is all about: Providing you, as a senior manufacturing executive, the strategic, high-impact information and analysis you need to make better business decisions.

We come from manufacturing. We know this industry. And we love the people that drive it forward. We believe in its boundless potential as well. That's why we are doubly proud this publication is owned, produced, and printed right here at home on the Prairies.

But we recognize where there is opportunity there is almost always challenge. That is especially true for the many businesses, employees, and families impacted by the devastating wildfires in Northern Alberta.

While our thoughts and prayers go out to all those affected, we have every confidence that the region, and the province, will rebuild and return better than ever. And we will be there to celebrate the triumphs every step of the way.

Thank you to all those who have supported us to bring *Prairie Manufacturer Magazine* to fruition. We sincerely look forward to serving — and learning from — you in the months and years ahead! 🍷

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Derek Lothian, **Editor**

Dana Jensen, **Creative Director**

In this issue



View from the C-suite

Loewen Windows Chairman Charles Loewen looks back at what has contributed most profoundly to his professional growth, and outlines the seven types of people that manufacturing leaders must surround themselves with to nurture success.



Thinking big

Award-winning business writer Martin Cash chats with some of Western Canada's most innovative thinkers, and explores how First Nations and Métis economic development is reshaping the manufacturing landscape on the Prairies.



The burning question

Led by Prime Minister Justin Trudeau, the new Liberal government has vowed to legalize the use of marijuana. How will that decision impact manufacturing liability and workplace safety? And what must companies do to prepare?



The sky is the limit

Since the Wright brothers first took to the air in 1903, flying has inspired the imagination. But a new generation of avionics is upon us. Meet one Prairie manufacturer taking 'drone' technology to incredible new heights.



Brexit at a glance

Mere hours after British citizens voted to secede from the European Union, *Prairie Manufacturer Magazine* Editor Derek Lothian sat down to answer three pressing questions on what the *Brexit* means for Canadian manufacturers.



"This year, all bets are off"

It is one of the most intriguing and important elections in history — even if it's not our own. *Prairie Manufacturer Magazine* examines how American voters may rescript the future of Canadian business.

Next issue

In our upcoming fall issue, *Prairie Manufacturer Magazine* makes a special visit to Saskatchewan, to help celebrate the province's 11th annual Manufacturing Week. Our team of writers also touch base with some of the region's top manufacturing leaders, who weigh in on the future of Canadian innovation, and how exporters can protect themselves against changing market pressures.

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Potash crystallizer at JNE Welding, Saskatoon.



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Monkeys be damned, the sky is not falling

By Derek Lothian

Anyone that has sat through one of my presentations has likely heard me recall the 'experiment' of the five monkeys in a cage.

As the story goes, a group of scientists place five monkeys into a caged enclosure. In the middle of the cage, there is a ladder; and, directly above the ladder, hanging from the ceiling, there is a banana.

The first monkey walks around, looks up, sees the banana, and starts climbing the ladder. Right before it reaches the top, a scientist sprays the monkey with ice water.

Now, monkeys hate water — let alone ice water — so the monkey shakes it off, jumps down, and goes to sit in the corner.

A second monkey paces around, looks up, sees the banana, and starts climbing the ladder. That monkey is also sprayed with water, comes back down, and sits in the corner.

This is repeated until all five monkeys have been sprayed with ice water — the banana still dangling from the ceiling.

One of the monkeys is then removed from the cage, and a new one is

introduced. That new monkey looks up, sees the banana, and starts climbing.

What do you think happens?

The monkeys that were just sprayed with water pull that new monkey down and beat the living snot out of it.

Another of the original monkeys is then removed and a new one is introduced. That monkey looks up, sees the banana, and starts climbing the ladder.

The very monkey that was just beaten pulls the new monkey to the floor and pummels it.

This recurs until all five of the original monkeys are removed from the cage, one-by-one. Yet, every time a new monkey is introduced, the remaining primates — which have never been sprayed with water — pull that monkey to the ground and give it a wallop.

There's no reason why any of those monkeys could not go up and get the banana; in fact, the water has long since been shut off.

So what does that tell us? It tells us that cultures are products of behaviours.

In other words: Reality is often four-fifths perception. If you say the sky is falling long enough, eventually, the worst will land square atop your head.

While this story is more of a modern-day fable than experiment (it is actually based on the real-life behavioural research of G.R. Stephenson and Wolfgang Kohler), the premise has many parallels to the business climate on the Prairies today.

For many manufacturers, yes, the last 18-24 months have been lean. But the sky is not falling, and there is reason to remain positive.

Between 2000 and 2015 (and despite a marked drop-off from the peaks of 2013 and 2014), manufacturing in Alberta, Saskatchewan, and Manitoba ballooned 58 per cent to nearly \$100 billion in cumulative sales — outpacing the national average of 8.6 per cent by a ratio of close to 7:1. And we've reached that plateau with approximately the same size labour force — a testament to our productivity, ingenuity, and hard-nosed grit.

With that in-mind, I don't walk around with rose-coloured glasses, either. Half of my own family works in and depends on the oil sector, and I've seen first-hand the impact softened commodity prices have had. But, as Jayson Myers, president and CEO of Canadian Manufacturers & Exporters, notes in his column later this issue (Page 12), this is not the time to look upward — it is the time to look ahead.

It is the time to double down on investing in efficiencies and innovation. Refining processes, exploring new markets, and delving headfirst into developing next-generation products are

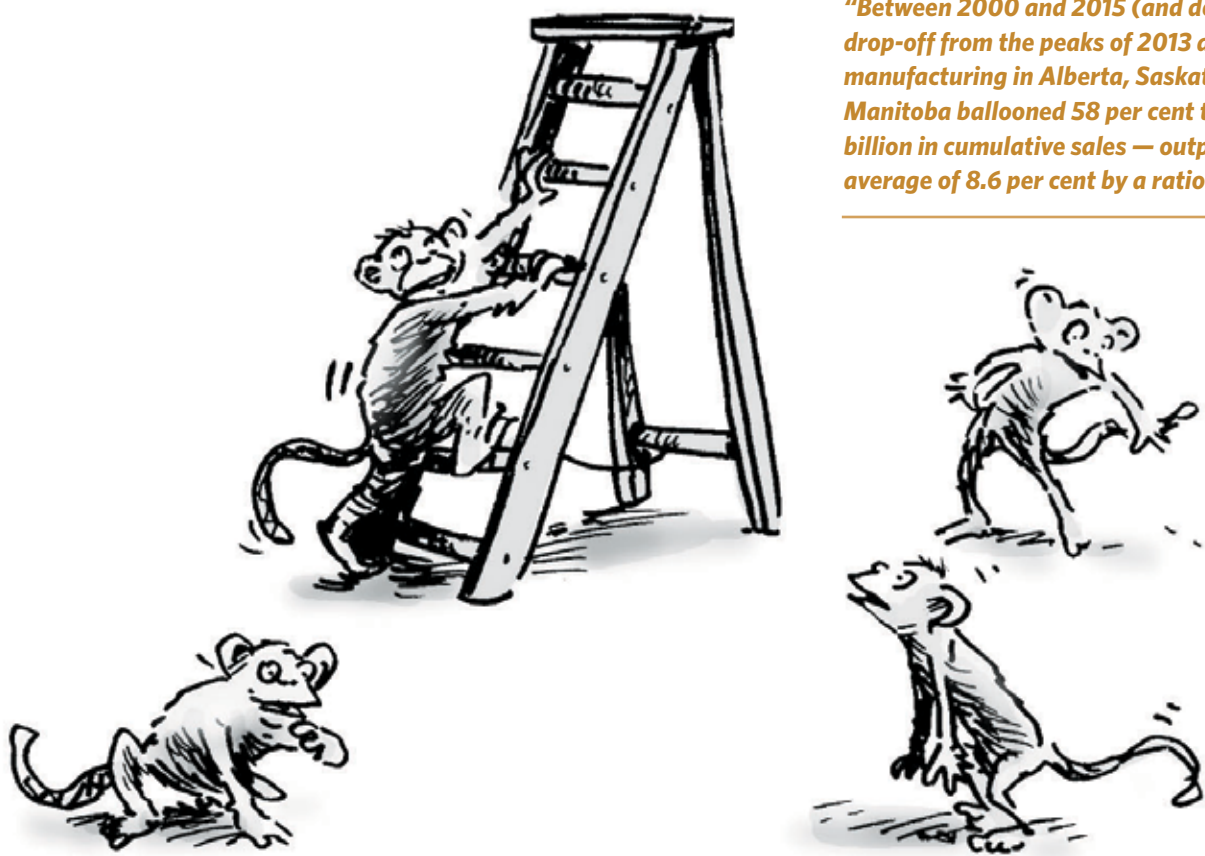
near-impossible when you're running at 120 per cent capacity.

It is the time to right-size with the right people. No one likes to see folks lose their jobs; however, businesses that are 'fat' with under-qualified workers in overpaid roles do not compete for long on the global stage.

And it is time to train. World-class manufacturing hinges on a world-class workforce. Compounded with incentives such as the Canada Job Grant, there is a unique opportunity at-hand to build vital competencies while keeping your key staff engaged.

The Prairies have always been known as a place that makes the best out of a tough situation. The rest of the world will not wait, so it is up to us to plough ahead. Stay focused and be optimistic — it is quickly becoming a business and economic differentiator.

D



"Between 2000 and 2015 (and despite a marked drop-off from the peaks of 2013 and 2014), manufacturing in Alberta, Saskatchewan, and Manitoba ballooned 58 per cent to nearly \$100 billion in cumulative sales — outpacing the national average of 8.6 per cent by a ratio close to 7:1."

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7 types of people manufacturing leaders must surround themselves with

By Charles Loewen



I often say that I won the ovarian lottery. Many of us did. We were born into prosperous times, in a stable and well-educated nation, to good parents, in healthy communities.

Some individuals spend years, or decades, navigating the labyrinth of educational opportunities and career pathways — many even retire before discovering their true passion. ➡



I, on the other hand, was born into mine. The great-grandson of a sawmill operator, our family business has always been rooted in manufacturing. The products have changed, absolutely. But after 110 years, to see the Loewen name — now synonymous with premium windows and doors — still woven into the fabric of Steinbach, Manitoba, is a testament to four generations of entrepreneurship, innovation, and pure, old-fashioned hard work.

Our family members, however, could not have done it on their own, and neither could have I. Whether you're fabricating windows or washing machines, doors or duck decoys, all manufacturers share one, universal input that has a disproportionate bearing on the success of any venture: *Human capital. People.*

Sometimes that input takes the shape of an employee; other times, it may be a confidante on the other side of a computer screen offering you advice.

Manufacturing is people. And if there's one lesson I've learned after

decades as a CEO and investor, it's that surrounding yourself with the *best* people you can afford is often the sharpened edge between business growth and bankruptcy.

As the saying goes: As hire As and Bs hire Cs. You almost invariably can tell the quality of businesspersons by the quality of people they hire. So here are seven of the most important As that every manufacturing leader needs to have in his or her corner:

1. Accountant

Accountants should proactively advise you how to both save and make money. Having that expert understanding of finances and taxation allows you to spend less time working *in* your business, and more time working *on* it.

If there's one place not to be thrifty, it's here. When your books are in chaos, everything else falls apart.

2. Lawyer

A good lawyer should not pride himself or herself at being skilful in court

— a good lawyer is there to keep you *out* of court.

It's paramount that you as an executive trust and are open with your lawyer. They cannot help you effectively unless they are fully informed, so spend the time and money to build a trusting relationship, and arm them with the information they need to do their job.

3. Dealers (or distributors)

One of the best business decisions I made was to chase the top-tier dealers. That comes at a price: Territory exclusivity (which you shouldn't be afraid to give), higher margins, and lots and lots of time.

In fact, if you have a great dealer, you may find yourself saying *no* regularly — because they're that demanding. And it's okay to be demanding of them, too. It is, after all, a partnership. But be sure to never become reliant on any one dealer to a point where you cannot afford to lose them, or fire them, if necessary.

4. Banker

I've seen many businesses develop an adversarial relationship with their lenders. And, more times than not, it's because the business does not understand the limitations of the bank, or banker, on the opposite end. If you think your industry is overregulated, try theirs.

Make sure *your* relationship is, instead, built on collaboration. Use your banker as a source of insight — they see more types and scales of businesses than so-called 'expert' consultants (and how much do you pay them?). They are also willing to share those experiences, and their advice, for free!

5. Suppliers

Suppliers are as much a part of your business as your customers. Be sure your suppliers know how vital they are — they can be invaluable sources of competitive intelligence as well as product and process improvement.

6. Board

When you're a CEO, think of it as being in a capsule. You are frequently consumed by what's going on within your walls, and you cannot always see the trajectory of where you're heading.

That's why I implore manufacturers to lean on a board for support, whether that's a formal board of directors or, as often the case in smaller companies, a board of advisors. You'll be surprised by the calibre of people willing to give you advice (just use their time wisely).

7. Nice, well-paid staff

Wal-Mart Founder Sam Walton was once famously asked during an interview how he determined what type of people to hire, and he replied simply: "I hire *nice* people." I've found that *nice* is not sufficient in itself, but it *is* necessary. You can always train skill, yet you cannot train attitude. That's not to suggest your staff should be smiling wallflowers, either. Hire key people with a little bit of edge as well — that's how

limits get pushed and businesses move forward.

Finally, when it comes to your staff, pay them well. Pay your people so well that, when you write the cheque, you feel like pulling it back. You should then feel just fine about expecting a lot. It is unfair to have high expectations without the compensation to go with it. Having that approach provides you the bandwidth to surround yourself with people who have been where you want to go. *ℓ*

Charles Loewen is the former CEO and current chairman of Loewen Windows, as well as an honoured member of the Manitoba Manufacturers' Hall of Fame.



It's an economic roller coaster but this ain't no amusement park

By Jayson Myers



PHOTO CREDIT: ALEXEI KINTERO

Manufacturing on the Prairies is a lot like riding a roller coaster. And, sometimes, it seems as if manufacturers are riding more than one.

The steep climb in oil and other commodity markets that occurred both before and after the recession gave way two years ago to plummeting prices, dramatic declines in business investment, and resource projects either cancelled or postponed. Meanwhile, the Canadian dollar that was trading at par only two-and-a-half years ago lost a third of its value by last February, only to rebound by more than 15 per cent over the next three months. The U.S. economy that was strengthening for most of 2015 is now showing signs of weakness. Never mind the problems in Europe and Japan, the BRICS that were supposed to drive economic growth into the future have become industrial basket cases. I include China in that assessment as well. Now, the Fort McMurray wildfire. Hold on, there's probably more to come.

None of these wild gyrations in markets were

predicted. The fire certainly wasn't. They were all beyond the capacity of manufacturers to manage or control. But the impact on Prairie manufacturing has been gut-wrenching. Manufacturers' sales across the Prairies have fallen more than 16 per cent since January 2014. Petroleum refining has taken the biggest plunge, but suppliers of components and equipment for oil sands, conventional oil extraction, mining, and agricultural markets have all been hard hit. Manufacturing sales have dropped by more than 21 per cent in Alberta and 14 per cent in Saskatchewan. Only in Manitoba have sales actually increased — by about six per cent. There are 30,000 fewer people working in Prairie manufacturing today than there were 30 months ago, and manufacturing employment is down in every province.

There are some lessons to be learned here. One is never to trust economic forecasts. Another is that

diversification cushions market downturns — that's the lesson from Manitoba. Companies that can leverage their capabilities to serve customers in other product or export markets less dependent on commodity swings have a somewhat easier ride. There are other takeaways I think are important as well.

The first is that business planning needs to build in a tremendous amount of economic volatility. That is easier said than done. But, there are some root causes of market volatility that, once taken into account, may provide a bit of a hint as to where economic roller coasters are heading. The more central banks pump money into their economies, the more we see market bubbles and crashes. Money flows quickly into and out of financial markets; unfortunately, that has a big impact on industry and trade as well.

Keep your eyes

peeled on where interest rates are shifting around the world and on the American dollar. The expectation that rates will rise in the U.S. before those in other economies has inflated the greenback and depressed both commodity prices (denominated in USD) and the loonie. At least half of the collapse we've seen in oil prices has actually been due to the appreciation of the U.S. dollar against other major currencies. Commodity prices will rise again when the U.S. dollar weakens, but that will take renewed confidence that economies are back on-track around the world. That may take a very long time, too. The Canadian dollar is likely to bounce around between 70 and 85 cents USD for the rest of this year. How's that for accuracy? Meanwhile, more volatility can be expected in currency, commodity, and other asset markets, regardless of the real conditions of supply and demand.

Continued on Page 14

"At least half of the collapse we've seen in oil prices has actually been due to the appreciation of the U.S. dollar against other major currencies. Commodity prices will rise again when the U.S. dollar weakens, but that will take renewed confidence that economies are back on-track around the world."

Market roller coasters are not going to disappear anytime soon. Risk management is vital for financial sustainability. In my experience, learning from peers is one of the simplest and best risk mitigation

measures anyone can take. Banks and organizations like Export Development Canada can help by customizing short-term financial hedging solutions. Manufacturers can reduce exposure to higher priced imports by purchasing

more from suppliers in Canada or other countries whose currencies have also depreciated against the U.S. dollar. Lean management and waste reduction are also critical to providing the cash cushion necessary to help withstand unexpected swings.

Prairie manufacturers, however, cannot take their eye off business growth. There will be opportunities as a result of new infrastructure investments and the massive rebuild after the fire. Business plans need to focus on market diversification as well as export growth, and place a much greater emphasis on sales, marketing, and customer service. Collaboration will be important in shaping the customer solutions needed to enter new markets or growing (and defending) market share.

Keep in-mind, too, that manufacturers around the world are struggling with the same wild market conditions. The winners in this business will be strategic. They will be able to respond quickly to changing markets conditions and new business opportunities. They will be flexible, agile, and highly efficient. Above all, they will realize that their business is no longer one of just getting product out the door, but of providing individualized solutions to customers incorporating new technologies, customized design, and supporting services.

These are all strengths I see in Prairie manufacturing today.

Enjoy the ride. [£]

Jayson Myers is widely regarded as one of Canada's foremost economists. He currently serves as president and CEO of Canadian Manufacturers & Exporters, as well as chairman of the Canadian Manufacturing Coalition.

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Manufacturing Clients Recommend Ricky Singh's Expertise and Tailored Services

By Melody Rogan

Ricky Singh's ability to develop strong relationships with clients helps him to understand their needs and find financial solutions to fit those needs. Ricky has been working in the financial industry since 2010 and has been a Consultant at Investors Group Financial Services Inc. for the past four years. His main areas of focus include managing employee benefits and pension plans, as well as helping executives with their financial planning needs. Ricky works with a variety of clients in the manufacturing industry.

The Orthopaedic Innovation Centre (OIC) provides testing and validation, precise measurement, 3D printing, and clinical services for orthopaedic and biomedical products. The team of surgeons, scientists, engineers, and technologists provide their clients with professional expertise and exceptional service at their facility in Winnipeg. The OIC has partnered with organizations like Concordia Hospital, Research Manitoba, and the Winnipeg Regional Health Authority. Precision ADM Inc. is a division of the OIC and offers advanced digital manufacturing design, engineering, manufacturing, and consulting for clients in the aerospace, medical, energy, and industrial sectors.

Andrea Perrin, executive assistant at the OIC, says the company has been very happy with Ricky's services since he started working with them three years ago. He currently provides pension and health benefit services for the OIC.

According to Andrea, Ricky is "easy to get along with, very knowledgeable, and always willing to help in any way he can. If you have a question, he's really good at explaining things to you. He's always available. He's just really accommodating and helpful in regards to the whole benefits and pension process."

There is one thing in particular that stands out for the OIC when it comes to Ricky's service.

"The lunch and learn sessions about health benefits for our employees definitely went above and beyond what we expected

from a financial consultant. Ricky showed up at our office for the session with coffee and dessert, which definitely got the employees' attention! I don't think I've ever experienced any other kind of benefit or pension provider that has offered that type of service."

"The OIC would definitely recommend Ricky to other companies and to people we know. Our company ended up spinning out a for-profit company and we had the option of going with a different health and benefit provider, but we decided not to. We wanted to stay with Ricky because he had provided such great service!"

Another of Ricky's clients, SCT Welding, Laser & Manufacturing Co., has been providing custom metal fabrication services in Winnipeg for 24 years. The company applies their experience, knowledge, and state-of-the-art equipment to all kinds of projects in the automotive, electrical, transit, and agriculture industries. SCT is fully certified to CSA standards and offers customers competitive pricing, timely delivery, and outstanding service. Just recently, the company branched out with an electrical business called Strong Electric Manufacturing Inc., which provides custom electrical and mechanical manufacturing.

Ricky has been working with Raj Kulathungam, owner of SCT, for about a year, providing him with executive financial planning, particularly in the area of retirement planning. Raj has found Ricky to be very helpful and insightful when it comes to financial planning.

"Ricky makes everything very easy to understand," he says. "He's a great guy. Very knowledgeable and passionate about his work. I would definitely recommend him to others, based on his personality and the way he is always willing to help."

If you're the type of company that wants to protect your business and employees by ensuring that they have proper benefits and personal advice, contact Ricky Singh at Investors Group Financial Services Inc. for a one-on-one consultation.

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Farm equipment sales projections show optimism in agriculture



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The low Canadian dollar is poised to help Canadian farm equipment manufacturing throughout 2016 and 2017 in two ways. Expected to stay in the range of US\$0.75-0.80 for the remainder of 2016, it will help boost sales of Canadian equipment in the U.S. market, and indirectly impact sales of equipment here in Canada too. A lower loonie leads to higher farm cash receipts for Canadian producers, and higher receipts lead to more equipment sales.

Producers also tend to buy equipment based on their expectations of future cash receipts. And the future economic health of the Canadian ag sector looks bright.

FCC's annual report on farm equipment shows strength building in sales

The recently published *Projecting 2016-17 Farm Receipts and Equipment Sales*, FCC's annual report on farm equipment, provides a mixed outlook for sales of different classes of farm equipment in 2016, with further growth of all equipment in 2017.

Total farm equipment sales (including combines) in Canada are projected to continue falling in 2016 and increase

in 2017. Expectations in 2015 of lower commodity prices led to a slowdown in total equipment sales from their highs in 2014, a near-record year. In fact, given the strength of 2014 sales, the lower 2015 sales were still high enough to remain in line with the 10-year average.

Sales of 4WD tractors, which largely go to cash cropping farmers, are likely to do well in 2016, and grow again in 2017.

Farm cash receipts likely to show strong growth in 2016

2015's farm cash receipts ended strongly as the low Canadian dollar shielded producers from softer commodity prices. Canadian crop receipts are projected to increase in 2016, with another more modest increase in 2017.

Crop receipts hit their high in 2013, and have fallen slightly since with increasing global production that caught up to the demand for agricultural commodities. However, production concerns in South America and robust demand from fuel, feed and export markets have helped strengthen futures prices of grains and oilseeds for 2016-17.

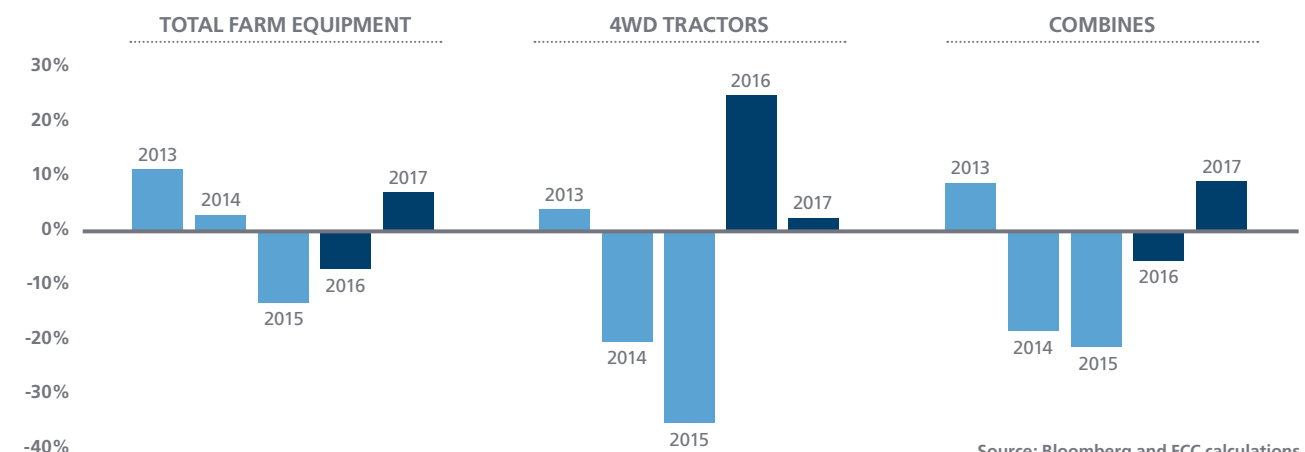
Production continues to trend up

The strength of the 2016 crop receipts will be in part due to the size of the 2015 crop. Although prices dropped, the sheer volumes produced made up the losses. Production of canola, corn and soybeans was significantly above each crop's respective five-year averages, and larger than the 2014 crop. Wheat production has declined, but the impact has been offset by increases in other crops. Of course, the impact of weather on 2016 production is unknown, so 2016-17 projections of crop production assume average yields for the 2016 harvests.

A low Canadian dollar helps too

FCC Ag Economist projections for crop and livestock receipts suggest a strong Canadian ag sector. Higher farm receipts support farm equipment purchases. With a CAD hovering in the US\$0.80 range throughout the year, sales of farm equipment in 2016-17 appear promising.

Visit fcc.ca/FarmEquipmentSales to
view the full report and learn more.



Source: Bloomberg and FCC calculations





Four decades of lean on the Prairies

By Dave Hogg

Sure, there are some smoky clouds over the Prairies these days. As Confucius put it, however: “The greatest glory is not in never failing, but in rising every time we fall.”

Count me in as one observer who believes the future for Prairie manufacturers has never been brighter — even though the challenges to come will be greater.

I have been travelling across Western Canada for close to 40 years now, and can tell you first-hand that manufacturers here are uniquely equipped with the adaptability and focus on value that others lack to succeed in the global marketplace. ➡



When the early lean manufacturing consortia movement began circa 2000, Manitoba, Saskatchewan, and Alberta led the rest of the country. Their natural organic collaboration brought together manufacturers (many of whom competed with one another) seeking excellence in continuous improvement, practical innovation, agility, and — ultimately — productivity. These are the same attributes needed to greet the future.

Unlocking the value

Lurking throughout this three-province patchwork is a growing awareness of the power of lean thinking and the implementation of its philosophies. Lean remains the world's most powerful driver of change in manufacturing.

And it's worth remembering how it all evolved. From 15th century Italian shipbuilders, who achieved unheard-of construction rates of 'a galley a day' to 1914 in Michigan, where Ford's 'flow manufacturing' concept transformed the industry we know and love. Toyota, of course, then seized upon that same model in 1950, avoiding bankruptcy and becoming an icon for lean around the world.

It is a practice often mischaracterized as unique to Japanese culture; yet, there is nothing more North American than lean.

"Lean is all about reducing waste, while adding value for the customer. That approach is, in no way, exclusive to manufacturers alone."

The Prairies began embracing lean more universally in the 1990s, giving way to many success stories like Brandt Engineered Products in Regina, which has earned a reputation for out-thinking and out-performing their competitors.

We can all take pride in the achievements of Manitoba's New Flyer Industries, Alberta's NovAtel, as well as smaller shops like Combine World — a dozen-or-so-person operation east of Saskatoon, whose leadership team is frequently invited to events around the globe to speak about its experiences in lean.

In 2015, the Prairies were home to the largest lean conference in Canada, in Winnipeg, igniting exchanges from many Canadian consortiums. Today, their pioneering spirit has led to consortiums in healthcare and government, emerging from manufacturing floors.

Saskatchewan, for example, has become a world leader in the deployment of lean in healthcare, and other groups like the Winnipeg Police Service are using lean to fundamentally improve how they serve the community.

Lean is all about reducing waste, while adding value for the customer. That approach is, in no way, exclusive to manufacturers alone.

The urgency of 2016

Whether you look up to the teachings of Leonardo da Vinci or Yoda,

our future will be perennially filled with urgency. New priorities, new ideas will be front and centre. Winning will be about how well you sustain the flow of value to your customers.

Da Vinci puts it this way: "I have been impressed with the urgency of doing. Knowing is not enough; we must apply. Being willing is not enough; we must do." So, to win, the right action requires the 'right must' that is infallibly tied to your customer, contained in your organization's vision, and expressed by your leaders each and every day.

We have all faced intense competition in the past. But the scale of the coming competition is something else. Look no further than the Comprehensive Economic and Trade Agreement between Canada and the European Union, or the ongoing Trans-Pacific Partnership negotiations.

Some will thrive. Some will not. The time to start this 'big picture thinking' is now.

But *thinking* is just one part of the equation. The real work is in building upon the vision — in lean terms: the *desired future state* — that will need to be laser-focused on the chosen customer. It will be collaborative and innovative thinking that aligns a company's people, processes, and technologies to win.

Prairie manufacturers have inherited that collaborative spirit from their agricultural ancestors.

Farmers come together to help each other solve just about any problem. It's in their blood. I remember, from my childhood, carrying honey pails of cold water to threshers feeding sheaves into

"We have all faced intense competition in the past. But the scale of the coming competition is something else."

the big, White threshing machine. And when we were done, we headed good-naturedly to the next farm up the road. It was simplistic, pure collaboration in action.

Starting the conversation

The emergence of this very magazine is a sign that our competitive infrastructure is strengthening. We know, after all, communication is an accelerant that makes a difference in ideation.

The network of consortia and lean training programs on the Prairies is blossoming as well.

Take advantage of the tools and supports that are out there. Go on a plant tour. Take a course. Connect with other manufacturers that have successfully started along their lean journeys. Plan to attend the 2016 AME Lean Conference in Dallas — the largest of its kind in the world.

Know, when you take that first step, you are not alone.

We are all in this together. *¶*

Dave Hogg is one of Canada's premier thought leaders on lean manufacturing, and is editor of the Accelerate the Journey newsletter — a free e-newsletter delivered across North America each month. Register to receive your copy at www.acceleratethejourney.com.



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WHAT HAPPENS IF WE TRAIN THEM AND THEY LEAVE? MORE IMPORTANTLY, WHAT HAPPENS IF WE DON'T AND THEY STAY?

BEHIND OUR MEMBERS' SUCCESS...STANDS CME MANITOBA

Our LEAN training programs helped New Flyer compete on a global stage

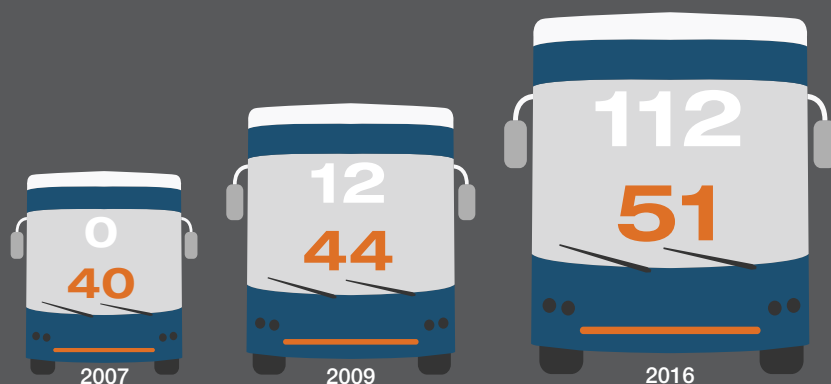


Paul Soubry, President & CEO, New Flyer Industries

New Flyer is the leading manufacturer of heavy-duty buses in the U.S. and Canada. Offering the broadest line of transit vehicles, the firm has secured its strong position by providing reliable transportation solutions that meet the needs of today while anticipating the needs of tomorrow. Known for breaking new ground, New Flyer's products put them on the map. Quality and innovation – two cornerstones of LEAN – keep them ahead

President, CEO and CME supporter Paul Soubry has long recognized the benefits of investing in a LEAN workforce. Still, he was amazed at the quality and depth of training offered by CME available year round, by manufacturers, for manufacturers.

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What's more, an industry-leading mentorship component is integral to the program. Building on CME's strength in LEAN and learning, participants are supported by mentors from their own company who help them apply workshop teachings back in their own workplaces. Here's what members have to say:

EXECUTIVE FEEDBACK

The program was filled with very useful and simple to use leadership tools. We've all gone to training where we were excited about what we learned, but forgot about it the minute we got back to work and caught up in the day. The mentorship element of this program allows organizations to fully leverage what participants have learned.
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I would absolutely recommend this training to others! Having 'skin in the game' by both the mentor and mentee is something unique and very positive about this training.
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CME'S LEADERSHIP DEVELOPMENT TRAINING IS THE ANSWER





Three innovators in higher learning answer the question:

How will education evolve over the next decade to advance the world-class manufacturing workforce of tomorrow?



Athabasca University
FACULTY OF BUSINESS

Dr. Deborah Hurst, Dean, Faculty of Business, Athabasca University

For the last five years, the skilled labour gap has received plenty of public attention in Canada, but not for the reason you probably think. The biggest challenge facing the industry today is not a lack of skilled labour, but a lack of experienced management.

Manufacturing has traditionally been considered the process that turns raw materials into physical products. But the business of manufacturing has changed. This extremely diverse, constantly accelerating industry faces intense challenges, such as: Strengthening efficiencies while maximizing cost effectiveness; incorporating analytics and big data into processes; shortening time to market; and, at the same time, increasing accuracy — all while

enhancing strategic positioning. The manufacturing sector has massive reach, bolstering exports and global trade, and is the second largest contributor to Canadian GDP.

With the continual evolution and increases in complexity of the manufacturing industry, managers need to be deliberate leaders who understand intricacies from all aspects of their business.

In a sector where skilled staff often rise from the shop floor to management, without any formal business training, are employees equipped to deal with the many challenges faced in the manufacturing workforce of tomorrow?

To address this need, Athabasca University and Canadian Manufacturers &

Exporters partnered to create the Manufacturing Management Certificate (MMC) of completion program, designed to provide manufacturing professionals with not only management skills but also a deeper, more comprehensive understanding of the business side of the sector.

Take it from Brad Zerr, MMC graduate and shop superintendent at JNE Welding:

“Understanding and communicating the reasons behind our actions is a key component of effective leadership. The MMC program has been instrumental in building my understanding of why effective leaders do what they do. I now have a solid theoretical foundation upon which to ground my practices on-the-job.” ¹



MANITOBA INSTITUTE OF TRADES AND TECHNOLOGY

Paul Holden, President & CEO, Manitoba Institute of Trades and Technology

Employers in today’s manufacturing sector demand advanced competencies in broad skill areas, and a workforce committed to — and capable of — continuous improvement.

Today’s worker, meanwhile, has the desire and motivation to enhance his or her skills and competencies, and expects employers to support continuous learning. This presents a rich opportunity for leaders in industry and education to cultivate a world-class manufacturing workforce through strategic alliances that strengthen the skills of workers.

Over the next decade, Manitoba’s manufacturing workforce will be expected to meet the skill demands of a rapidly growing and highly competitive global economy. Educational institutions, business,

industry, and sector associations all need to work together to develop innovative approaches to training that align curriculum and outcomes with industry needs.

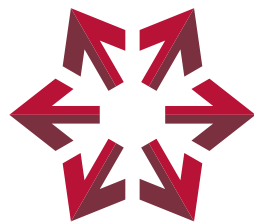
Manitoba Institute of Trades and Technology (MITT) is an excellent example of an institution that is proactively working with a broad swath of industry groups to determine labour gaps and opportunities, and develop programming that precisely addresses employers’ needs.

Institutions like MITT play a major role in attracting the next generation of workers to careers in manufacturing through experiential learning opportunities such as practicum placements in the workplace. Accessible training that leads directly to employment in manufacturing will help to attract new target audiences

such as women, Indigenous Peoples, new immigrants to Canada, and people with disabilities.

To realize a world-class manufacturing workforce, we must create world-class training and education for the young people who are the future of Manitoba’s manufacturing industry.

The fourth industrial revolution is upon us, featuring technologies such as 3D printing, model-based definitions and supply chain digitalization — just to name a few. A highly skilled, educated workforce of technicians, trades workers, and engineers, who are equipped with strong technical and essential skills, will guarantee Manitoba’s competitive advantage in the workforce of tomorrow. ²



SIEC
Saskatoon Industry
Education Council

**Janet Uchacz-Hart, Executive Director,
Saskatoon Industry Education Council**

We can all agree that there is no issue more vital to the future of Canadian manufacturing than workforce development. If we strive for a world-class industry, we require leading-edge employees and the very best entrepreneurs.

Yet, Canada's approach to enriching this talent pool has been piecemeal at best. Interprovincial labour mobility remains stagnant, the average age of an indentured apprentice still hovers in the late-20s (resulting in nearly a decade of lost productivity), and *immigration*? We won't even get into that.

Instead, our shared prosperity hinges on the ability to better nurture

our workforce from within. And, to get there, we need a comprehensive, national youth-industry education strategy.


This strategy must encompass ambitious targets for the provision of hands-on, experiential learning opportunities (at an increasingly younger age), and a benchmarked plan to bolster the awareness of industrial career pathways. It must also emphasize enhanced soft skills, such as reading, math, comprehension, and language disciplines.

Groups like the Saskatoon Industry Education Council (SIEC) — a partnership between three area school divisions, the Saskatoon Tribal Council, and the local business community

— can serve as a blueprint for what that strategy could look like. This year alone, the SIEC has connected more than 12,000 youth and 800 teachers to innovative programming and technologies, from virtual welders to hovercraft assembly lines. All with only four full-time staff.

But this is not the sole responsibility of government, either. Employers, too, must take command of their own future.

Reach out to your school divisions, industry education councils, and associations. Invest in them your time. Take on summer students. Open your doors.

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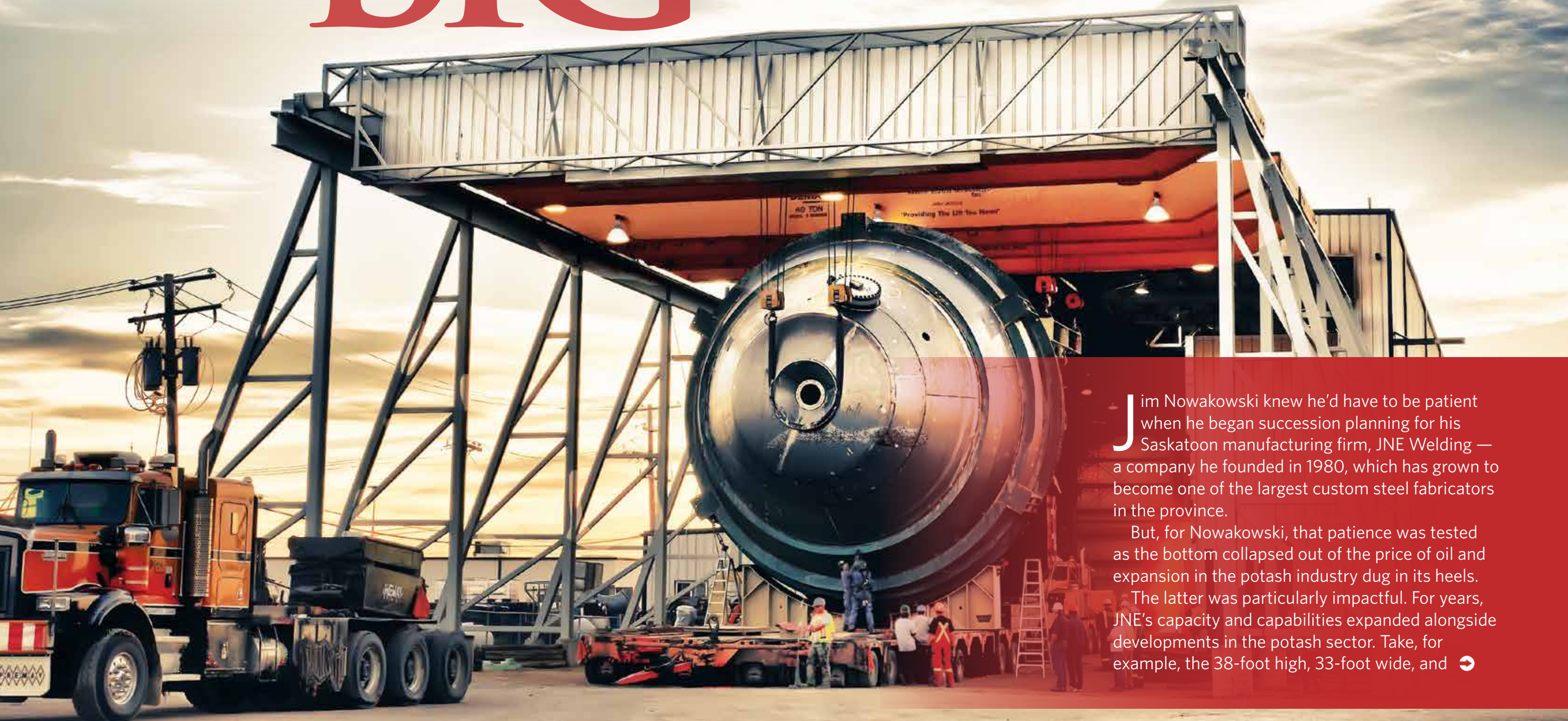
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THINKING BIG

How Indigenous economic development is reshaping manufacturing on the Prairies

By Martin Cash



Jim Nowakowski knew he'd have to be patient when he began succession planning for his Saskatoon manufacturing firm, JNE Welding — a company he founded in 1980, which has grown to become one of the largest custom steel fabricators in the province.

But, for Nowakowski, that patience was tested as the bottom collapsed out of the price of oil and expansion in the potash industry dug in its heels.

The latter was particularly impactful. For years, JNE's capacity and capabilities expanded alongside developments in the potash sector. Take, for example, the 38-foot high, 33-foot wide, and ➔

186-foot long crystallizer it rolled down Highway 11 last year to K+S Potash Canada's \$4.1 billion Legacy mine north of Regina.

Those mega-projects, however, have largely wrapped up; and, with potash prices roughly one-third of what they were in 2008, new developments have not kept pace. Mining giant BHP Billiton recently announced it would be slashing \$130 million from its budget for the build of its Jansen Lake underground facility, 140 kilometres east of Saskatoon.

Still, there were equity investors that were looking to exit, so Nowakowski needed to push through. He wanted a partner that would be committed to continued growth, to keeping operations in Saskatoon, and one that could add value to its business development activities.

"I know, for it to be successful, things like that don't happen overnight," says Nowakowski. "I started down that path four or five years ago. I had a couple of false starts where it wasn't right, neither for me nor the groups we were considering, so we backed away."

Nowakowski wasn't just thinking about his own pocketbook. He had a responsibility to the 130-plus people working for him to get the "right fit."

That fit turned out to be a partnership with two Saskatchewan First Nations groups.

This past January, English River First Nation and Peter Ballantyne Cree Nation announced they would be joining forces

to acquire a 60 per cent majority ownership stake in JNE — a deal that took about a year to complete.

The agreement marked one of the first times that enterprising — and increasingly well-capitalized — Indigenous investment bodies targeted the Prairie manufacturing sector as a way to build wealth and stimulate economic development, shifting the role of First Nations and Métis Peoples from workforce participants to owners.

The decision for Nowakowski was far from passive.

There is a growing understanding by mainstream businesses in Western Canada that their future prosperity is heavily tied to their success engaging with Indigenous populations in the regions in which they work.

This concept was not a new one for JNE. The company had partnered in the past with Tron Construction & Mining — another business venture owned by English River's economic development arm, Des Nedhe Developments.

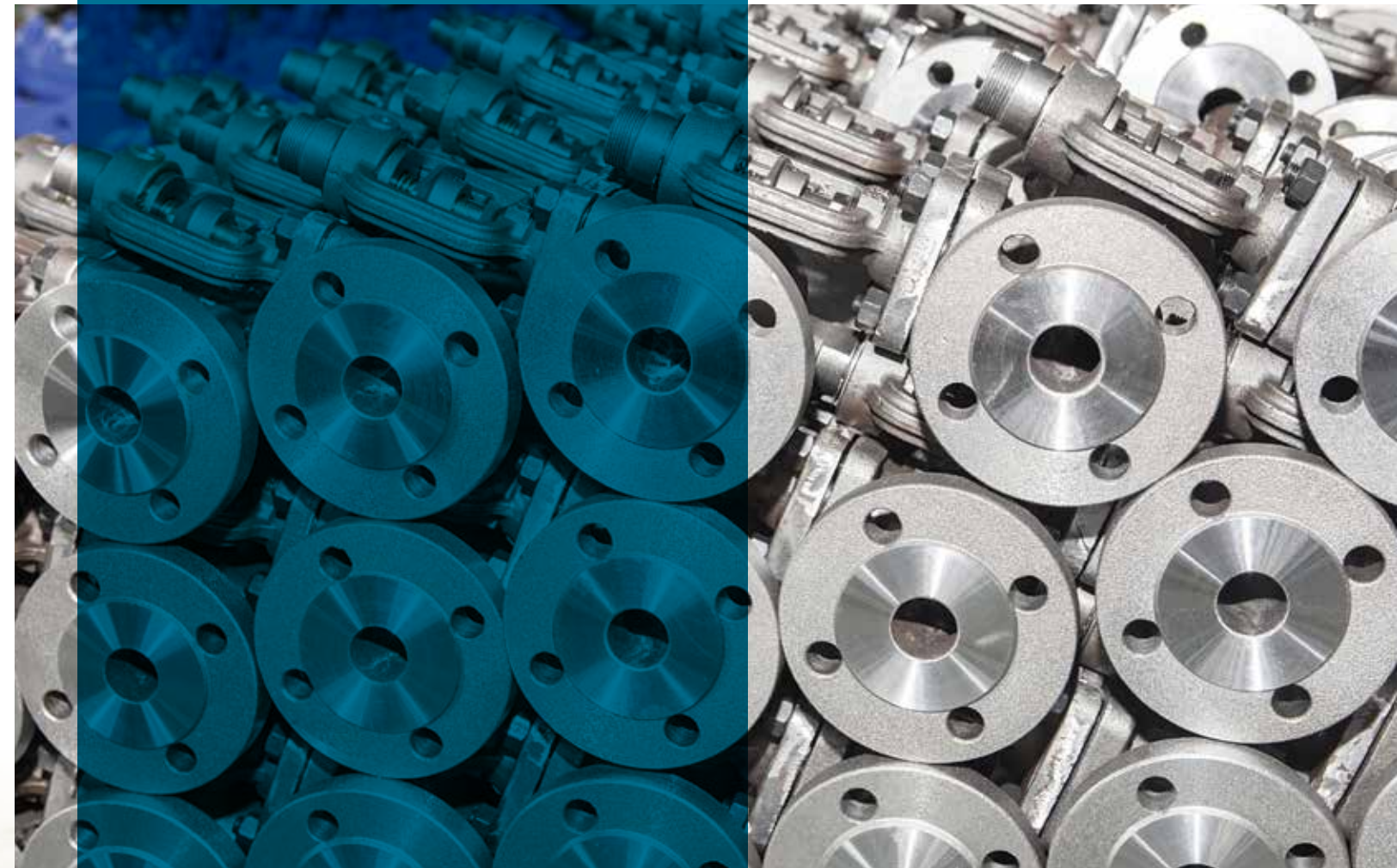
Now, under the direction of its own new mandate, JNE has forged ahead.

"There has been a positive impact," says Nowakowski. "I think we have already been considered for a few jobs that we otherwise would not have been."

That's because many Crown and resource development corporations have strong directives to engage First Nations and Métis Peoples.

Continued on Page 32

"Baby boomers are retiring, but you have a growing Aboriginal population. If there are ways and means of mobilizing that talent, they can rise to help fuel growth especially in the western provinces."



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“Whether it is Indigenous or non-Indigenous, we are in it together.”

German-owned K+S Potash Canada is one of those companies.

Terry Bird, lead advisor on First Nation & Métis initiatives with K+S, says it is a fundamental piece of the company’s operating principles, with specific policies on both procurement and employment.

Gone are the days of having a community outreach policy just for show.

“It’s good for the organization,” explains Bird, “and it is the right thing to do.”

Gary Merasty, chief operating officer of Des Nedhe Developments, has an enviable network of contacts by virtue of his tenure as a two-time former grand chief of the Prince Albert Grand Council, seven years as a vice president with uranium producer, Cameco, and one term as a Liberal MP for the northern Saskatchewan riding of Desnethé–Missinippi–Churchill River.

In addition to the people he knows, he also has the benefit of perspective.

“It’s not strictly a social issue,” Merasty says of the current wave of industry engagement with Indigenous Peoples. “If you step back and rise above 10,000 feet, you can see it is a growth issue.

“Baby boomers are retiring, but you have a growing Aboriginal population. If there are ways and means of mobilizing that talent, they can rise to help fuel growth especially in the western provinces. Because [Indigenous Peoples] are such a huge part of the overall population compared to the east, our impact contributes to growth big time. That is part of the overall strategy.”

English River has built an impressive portfolio of business interests, including multi-location retail operations and a 134-acre urban reserve that nestles up to the City of Saskatoon. Top line revenue for the operations, including its 30 per cent stake in JNE, is up to roughly \$200 million.

“Whether it is Indigenous or non-Indigenous, we are in it together,” exclaims Merasty. “These provincial economies in the west are integrated. By partnering like this, it allows the pool to go a little deeper and little wider for the future.”

That is why Nowakowski and companies like K+S are prepared to spend the time and effort to foster partnerships that work.

And it takes more than just policies, procedures, and a stated commitment. It takes steadfast dedication. According to Bird, that means a willingness “to go across the road and shake hands” with community leaders, to find out what they can offer and what they may need from you.

“There is a fair amount of engagement that we continue to do on an on going basis,” he says.

Meanwhile, Pasqua First Nation, just east of Regina, has been building an active portfolio of its own, generating \$40 million in business revenue during 2015, including from the delivery of several training programs it administers on-reserve in partnership with Parkland College.

Pasqua Chief Todd Peigan also preaches the same message of hard work, and is adamant you can’t sit and wait for companies to come to you.

Continued on Page 34

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"Industry is very supportive, but you have to take the initiative to go and meet with them. Industry doesn't necessarily make a point of meeting with the First Nations on business — it's up to the First Nation to go out and get involved."

"Industry is very supportive, but you have to take the initiative to go and meet with them," Peigan says. "Industry doesn't necessarily make a point of meeting with the First Nations on business — it's up to the First Nation to go out and get involved."

In February 2016, Pasqua acquired Pro Metal Industries, a Regina custom metal fabricator, to become one of the few 100 per cent First Nations-owned manufacturers on the Prairies.

It's part of an ambitious strategy started by Peigan when he became chief

in 2011, to ultimately make the band self-sufficient. To attain that goal, Peigan reached out for help, bringing in 30-year industry veteran Bob Dumur to manage Pro Metal.

Dumur, who built his own company, Dumur Industries, into a 100-plus-person precision metals shop before selling it in 2013, knew Peigan and the Pasqua band before becoming involved.

"Pasqua's ownership undoubtedly creates more opportunity for their people and Pro Metal," adds Dumur. "It's a win-win for us, and a win-win for our customers."

In Winnipeg, Sean McCormick's Métis roots are not far removed from the trap line where his aunt was born and where his grandfather made a living north of The Pas.

McCormick is the founder and CEO of Manitobah Mukluks, an internationally-acclaimed footwear company, whose modern, rubber-soled slippers and boots with distinctive Métis beadwork patterns are now sold in 50 countries.

The company placed 182nd on the *Profit 500* list of the fastest growing companies in Canada — the highest ranked company from Manitoba with 2015 revenue between \$10 million and \$20 million.

McCormick is passionate about his heritage and personally sponsors an educational program that teaches mukluk-making to Indigenous communities across the country.

And while his company trades on its Indigenous heritage, it's something McCormick treats with a solemn respect.

"Quite frankly, I think our authenticity is established by the actions we take in the community way more than who might be the owners," he explains.

"That said, when it comes to self-sufficiency, development, and sustainability, we (Indigenous Peoples) need to own our own things." ¶



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The myth around motivation

By Gordon McGilton

Let's address an age-old business question: *How do you motivate your people?*

Contrary to public opinion, the reality is simple — *you can't*.

First, let's get the terminology straight so we understand each other. *Motivation* is inherent to everyone. If you are *motivated* to do a particular task, it means you find it enjoyable. The very act of being involved is — in itself — rewarding enough, and makes you happy in some way.

The mistake people have made, or have been taught, is that motivation is analog, like height, weight, or blood pressure. In other words, the assumption is that you can have more or less of it, like liquid in a tank.

So, if that is the understanding, it is only natural to want others to have more of it. You then set about trying to *cause* people to have more motivation, through incentives (or *bribes*, depending how you look at it), threats — you name it.

That illustrates a fundamental misunderstanding of how motivation, and organizational performance, actually works. It turns out that everyone has roughly the same level of motivation in his

or her tank; folks are just motivated to do different things.

Even the phrases we use are misleading. For example, an observer may ask one of your employees: *What motivated you to become an engineer?* There are only two possible answers: One, *I find joy in doing it*; or, two, *I was 'activated' by the need for money, because my parents pushed me to, etcetera*.

You'll notice I introduced a new word, *activated*, into the discussion. *Activated* is what you are if you are caused to do something, anything, by an external force. You do not choose to do that thing because you enjoy it, but because you will get, or avoid, a reward or consequence in return.

The misinterpretation of these two definitions influences the design of almost all of the human resource approaches in practice today. The damage it causes may not be calculable, but certainly will be paid for at some point!

How can manufacturers right the ship and get the most out of their people? Get to know them. Get to know what truly *motivates* them — what they enjoy doing — and bring those individuals

together. Let them try new things. And if you find members of your staff are, in no way, motivated in any aspect of your business whatsoever, help them pursue their passions outside of your business — knowing full-well that may mean severing the employer-employee relationship.

Remember that true motivation is free. You cannot pay for it, nor punish to get it. And the results produced by *activation* are no match for those produced by *motivation*.

This one shift to how you view human capital management alone has the power to transform companies.

Gordon McGilton is a former CEO and serial investor with equity positions in the manufacturing, medical services, and automotive industries. He has been a speaker at the W. Edwards Deming Institute, and regularly conducts seminars across North America to teach Dr. Deming's theories.

Brought to you by



The burning question

How will legalized marijuana impact manufacturers?

By Joanne Paulson

Here is the big, two-headed problem with marijuana: It is hard to tell if someone is impaired, and it is equally hard to test for it.

Ever since the Liberal government came into power with a stated policy to legalize pot, Canadian manufacturers have been asking how new legislation might affect their operations — particularly with respect to liability and workplace safety.

They are concerned enough that they have been calling Winnipeg labour and employment lawyer Shereese Qually for advice.

Qually, a partner with Taylor McCaffrey LLP, explains that, on the legal and policy side of the conversation, marijuana fits logically into the same category as alcohol and prescription drugs. Those substances are legal, but they can, and often do, affect on-the-job employee performance.

“Just because it’s legal doesn’t mean it’s legal to be impaired at work — it’s not,” explains Qually. “We have drug and alcohol policies that address impairment, and prohibit that kind of contact at work, whether it’s bringing it to work or being impaired at work.”

“The challenge with marijuana is the testing piece. With alcohol, we have a pretty reliable testing source with breathalyzers. The alcohol level tends to

reflect the impairment level — to a varying degree, of course. But it’s absolutely accepted that urinalysis, which is the main testing for marijuana, does not indicate impairment.”

That unreliability has been one of the key challenges in drug testing cases, says Qually. “You can have a drug test that shows even high levels of THC, that does not at all indicate impairment. It’s not a reliable resource.”

All government eyes are presently on Colorado, where marijuana has been legal since 2014. The state is trying a saliva test for impaired drivers, but is still struggling with laws surrounding impairment.

To compound the issue, marijuana impairment is significantly different from alcohol impairment, says Dr. Brendan Adams, an Alberta-based medical consultant, who runs an addiction recovery program for the Airline Pilots Association. He recommends that manufacturers stop thinking about the indicators of alcohol impairment, and shift their perceptive powers.

Alcohol, explains Adams, is water soluble, enters all body cavities equally, and crosses the blood-brain barrier easily.

“Marijuana is very different. It doesn’t enter all compartments equally, nor does it ‘shed’ — or leave the body — equally,” he says. “[With marijuana], you can

be stoned as a skunk, because all your brain receptor sites are turned on by marijuana, but you have very little in your blood or urine, and vice versa. You could be shedding it in your urine, but you’ve gotten rid of a lot of it in your brain receptor sites.”

A person’s behaviour may not offer clear clues, either. While slurred speech or the inability to walk a straight line are dead giveaways of alcohol-induced impairment, these particular motor skill deficiencies do not generally appear in the traditional pot user.

“When you look at marijuana in safety-critical industries, the most important impairment has nothing to do with gross or fine motor impairment,” says Adams. “It’s the hippocampus — the part of your brain that governs memory. You’re not going to recall with the accuracy or speed you need.”

That kind of impairment has safety and performance implications, complicated by legal testing laws.

When to test

In the workplace, testing can be done under three circumstances, notes Qually: When there is reasonable cause, such as witnessing consumption or the

Continued on Page 38

“When you look at marijuana in safety-critical industries, the most important impairment has nothing to do with gross or fine motor impairment. It’s the hippocampus — the part of your brain that governs memory. You’re not going to recall with the accuracy or speed you need.”

symptoms thereof; post-incident, if there is an accident and an observance of impairment; or as a result of an accommodation agreement, where a person has an addictions issue.

The drug test must be supported by corroborating evidence — a significant hiccup in the case of marijuana, given the behavioural-impairment disconnect.

“[Legalized pot] doesn’t really change the framework for manufacturers, because what employees do with their extracurricular activities, unless it came into the workplace, was never your business anyway. It’s when they show up impaired, and that hasn’t changed. That’s when it becomes your business.”

Similarly, liability insurance will likely remain unchanged, since prescription drugs and alcohol are already reflected in policies, according to Glen Hufsmith, a branch manager with Affinity Insurance in Saskatoon.

“In a scenario where someone was impaired at work due to marijuana or alcohol, the standard liability policy would typically cover acts of negligence — meaning that, if there was no apparent reason for the employer to determine that person was impaired, their policy would pay to defend in the event they were named as being negligent in a lawsuit,” adds Hufsmith.

“That could change in a situation where, perhaps, someone was twice suspended for that, or showed up that day obviously impaired, and the employer insisted the employee do the job regardless of impairment.”

As long as an employer is being conscious of the potential for impairment, and advising supervisors to be aware of potential unsafe situations, “that’s really all they can do.”

Update policies

Qually suggests companies prepare for the new legislation by developing drug and alcohol policies, and to ensure these are drafted to address the legalization of marijuana. These policies should not simply be prohibitive, but must also include the concept of accommodation. Once the policies are in place, inform your staff and provide refresher training to employees, to clearly outline what is and is not acceptable.

“Just because this is legal, don’t show up impaired.” ❧

Charter Rights

> DO THEY APPLY TO OHS INSPECTIONS?

By Jamie Jurczak, Taylor McCaffrey LLP

Note: This article is prepared for general information purposes only. Its contents should not be viewed or relied upon as legal advice or opinion.

The Canadian Charter of Rights and Freedoms provides protection from government actions. It would, therefore, seem fair to assume that in the occupational health and safety context, Charter rights would limit what an inspector (acting for the government) can do while attending a workplace. However, this may not be the case.

Courts have distinguished between two different roles played by an OHS inspector: inspector and investigator. Rather than criminalizing behaviour, regulatory laws, like OHS laws, control and restrict conduct that we as a society find beneficial, but, if left unchecked, could lead to unsafe conditions. By differentiating between inspections and investigations, the law is attempting to balance society’s need to ensure laws are being enforced, with individuals’ need to ensure their rights aren’t breached.

In the inspection stage, the balance tilts in favour of society, allowing an inspector to use statutory powers to compel information to see if laws were followed, without invoking Charter rights. In the investigation stage, the balance shifts, as it’s at this time the inspector has determined laws likely were not followed. Because of the potential legal consequences, the courts have determined that Charter rights may apply.

For example, when an accident occurs, inspectors attend the workplace to find out what happened. They require the employer to provide them with documents or ask to speak with witnesses to do this. Generally, OHS laws require employers to cooperate with these requests without the inspector providing a warrant or witnesses being cautioned that they have the “right to remain silent.” However, when the inspector concludes the behaviour might attract legal consequences (such as an OHS prosecution), Charter rights might kick in, leading to the need for a warrant to obtain documents and interviewees being told they have a right to remain silent.

Courts have attempted to define at what point an inspector’s conduct shifts from inspecting to investigating. Several OHS cases have stated this occurs when an inspector believes there’s reasonable and probable grounds that an offence is being committed. This means that when an inspector arrives at a worksite to ensure compliance with OHS laws, the Charter usually doesn’t apply. But once that inspector, based on what he or she sees during the inspection, forms a reasonable belief that an offence has occurred, things shift into investigation mode, possibly triggering the Charter.

Making this determination isn’t easy. It takes a careful examination of all of the surrounding circumstances and a number of different factors set out in the case law. The courts will always look at all the factors and circumstances to make a decision as to whether the line has been crossed.

Because it can be so difficult to determine when an inspector has crossed into investigation territory, it’s recommended that a company get a lawyer involved early on when an inspector appears. Keeping your lawyer informed as to what the inspector is doing is the best way to ensure your Charter rights aren’t being infringed.

Jamie Jurczak is a partner at Taylor McCaffrey LLP, where she practices labour and employment law with a particular focus on occupational health and safety. You can contact her at 204.988.0393 or jjurczak@tmlawyers.com.

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CME Manitoba's unCONVENTIONAL unCONFERENCE a huge success

By Jill Knaggs

*The largest manufacturing conference on the Prairies
350 attendees ■ 100+ companies ■ Rave reviews*

Dare to Compete — Canadian Manufacturers & Exporters' (CME) flagship provincial conference — has long been touted as the can't-miss event of the year by many Manitoba manufacturers, large and small.

2016 was no different, with more than 350 delegates converging on Winnipeg's RBC Convention Centre this past March, to pack in a full day of professional development, shared learning, and industry networking opportunities.

"Attending CME Manitoba's annual conference has become a must-do for me, and it's because of the value I receive each year," explains Dan Oldcorn, training and development coordinator with MacDon Industries. "(Un)conference 2016 was no exception. I learned new things, reconnected with great people, and came away motivated and inspired."

In the spirit of continuous improvement, CME takes steps to ensure attendee feedback is heard and drives future iterations of the event.

This year's (Un)conference theme was the result of a desire to shift focus away from the 'same old conversations' and towards innovative topics that sparked interaction and helped avoid traditional conference fatigue.

Twenty-minute *Spark Sessions*, which required participants to get up and move, were especially popular, and organizers say they will be around again in 2017.

"Manufacturers across the Prairies have spoken, and the message is loud and clear," notes CME Manitoba Vice President Ron Koslowsky. "Mark your calendars early, and invest in your organization's success through our signature professional development experience."

The next *Dare to Compete* conference will be held March 21, 2017. ☞

"Attending CME Manitoba's annual conference has become a must-do for me, and it's because of the value I receive each year."



MEET THE NEW KIDS ON THE BLOCK

By Jill Knaggs



PHOTO CREDIT: DANIEL CRUMP

By every measure, CME Manitoba goes to great lengths to ensure *Dare to Compete* remains the 'must-attend' manufacturing event in Western Canada.

For Vice President Ron Koslowsky, that effort to push limits and do things differently than they've been done in the past is a point of pride.

"Not only do we want delegates to hear from leaders on the issues that are most important to them," says Koslowsky, "our goal is for participants to come away with implementable ideas to better address challenges as they innovate, improve, and grow."

But while specific topics often change, several overarching themes may not. Workforce development has become a staple focus for conference organizers — a natural fit, given CME Manitoba's Discovery Program finals, widely considered one of the premier industry-education initiatives in the country, take place the same day.

"Bringing together young people with manufacturing leaders allows for a unique mentorship experience," adds Koslowsky. "Enabling secondary students to experience the broader event with the added insight of a senior businessperson provokes an invigorated sense of engagement and enthusiasm on both sides of the equation."

"Our goal is for participants to come away with implementable ideas to better address challenges as they innovate, improve, and grow."

Delegate-driven format maximizes learning

We've all heard the cliché: *There's something for everyone*. Only, at the *Dare to Compete* conference, there truly is — with sessions capturing the attention of operational personnel all the way to the C-suite.

"Helping manufacturers become more efficient, embrace technology, attract and retain the right talent, and grow their businesses are primary focuses of ours," says Koslowsky. "The

(Un)conference model empowers delegates to shape and maximize their own learning experience, resulting in a higher return on investment.

"Taking a day to develop knowledge and awareness of industry best practices can seem like a big investment of time and money. But year over year, *Dare to Compete* proves its worth and keeps on growing." ☞

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CME Manitoba's annual Gala Awards Dinner sets the gold standard

By Jill Knaggs

CME Manitoba's nominations committee faces a unique challenge. Every year, it becomes increasingly difficult to define a clear leader amongst an ever-growing field of standout players in the Manitoba manufacturing community.

"The competition is impressive" says Hugh Eliasson, retired deputy minister of jobs and the economy for the Manitoba government, and member of the nomination committee. "You'd think it would get easier over time, but with the quality of business — the sheer number of visionary leaders and innovators in Manitoba — it just gets harder and harder to select from a growing list of deserving nominees."

Two local business leaders, however, and three organizations stood out above the competition in 2016, and were recognized at the March 23 Gala Awards Dinner for their outstanding contributions in achieving world-class benchmarks in the manufacturing and exporting sector.

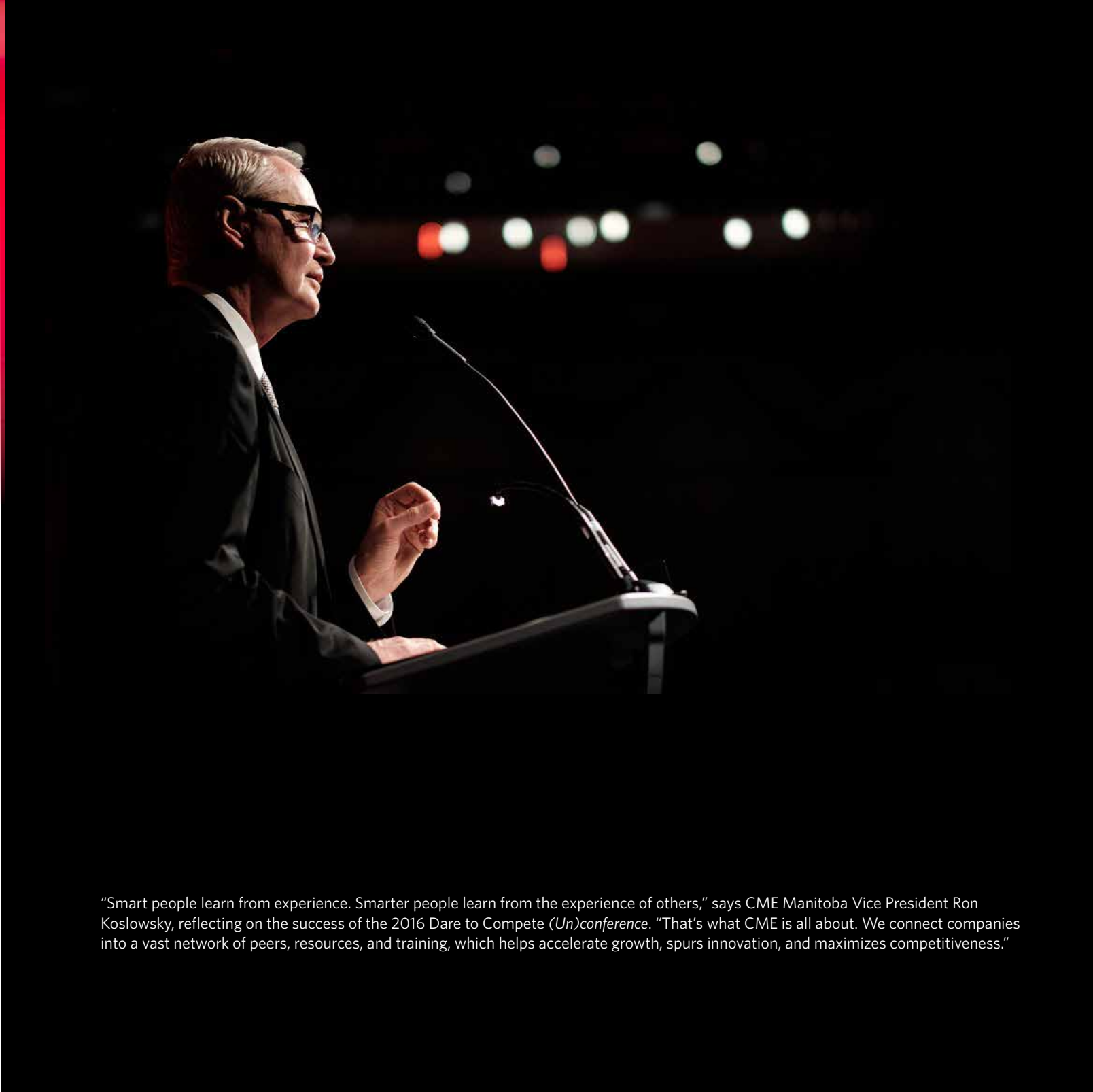
Attracting more than 500 senior industry leaders, policymakers, and community champions, the gala has evolved

into a veritable *who's who* in Prairie manufacturing, drawing in some of Canada's most influential chief executives, like Paul Soubry, president and CEO of New Flyer Industries, and top-tier sponsors, such as the Toronto Stock Exchange.

2016 Award Recipients

- Bruce Berry, Winpak, *Hall of Fame Award*
- Peter Barkman, Barkman Concrete, *Pioneer Award*
- BEHLEN Industries LP, *Export Award*
- University of Manitoba, Asper School of Business, Faculty of Engineering, *Partner Award*
- Manitobah Mukluks, *Emerging Award*

Who will be celebrated in 2017? Nominations are now being accepted at CMEHallofFame.ca. Submit yours today! ☺



"Smart people learn from experience. Smarter people learn from the experience of others," says CME Manitoba Vice President Ron Koslowsky, reflecting on the success of the 2016 Dare to Compete (Un)conference. "That's what CME is all about. We connect companies into a vast network of peers, resources, and training, which helps accelerate growth, spurs innovation, and maximizes competitiveness."



PHOTO CREDIT: DANIEL CRUMP

Welcome to the New West

Manitoba's inclusion in the New West Partnership will open doors, and markets

By Joanne Paulson

When Brian Pallister's Conservatives were elected in Manitoba this spring, their commitment to enter as the fourth signatory into the *New West Partnership Trade Agreement* was greeted with open arms by the province's manufacturers.

The policy marks a pro-trade pivot from the previous NDP government, which declined to join the New West Partnership when it was formed in 2010 by British Columbia, Alberta, and Saskatchewan. The pact ensures reciprocity and a level playing field for businesses, removing barriers to trade, investment, and labour mobility.

Over the past five years, access to interprovincial infrastructure markets has been a key sticking point for many Manitoba manufacturers. But that's all about to change.

Ron Koslowsky, vice president of Canadian Manufacturers & Exporters (CME) and a leading voice on manufacturing in the province, says the procurement issue "hit the fur" last fall, when Saskatchewan Premier Brad Wall questioned why Manitoba companies should be allowed to bid on projects further west, while Manitoba firms continued to receive preferred treatment back at home.

"The companies that would be cost-effective and good service providers in Saskatchewan and vice versa in Manitoba — those are the companies that would benefit," explains Koslowsky. "That's the biggest roadblock that would come down."

According to Olivia Baldwin-Valainis, director of communications and stakeholder relations with the Province of Manitoba, bilateral meetings have already taken place between Premier Pallister and his counterparts on the New West Partnership file, with the goal of joining the agreement within the government's first 100 days.

"What free trade does is it balances things out on a much larger scale and allows the flow of goods and services in the most efficient manner possible, passing along lower prices, better quality, and faster delivery."

"Manitoba is highly dependent on trade with other provinces, as our interprovincial exports of goods and services generally account for about half our total exports," says Baldwin-Valainis. "To that end, we have also committed to establishing a team of business, labour, and community leaders to find and reduce cumbersome and unnecessary red tape."

Economics of free trade

The primary argument for free trade centres on the premise that open trade countries fare better economically than those that are closed, says Koslowsky. The same theory also applies to taxpayers, who are amongst the biggest beneficiaries of trade agreements like the New West Partnership.

"The first principle that every consumer needs to be aware of is that the government has nothing except that which it takes from its citizens. It's coming from your pocket and my pocket," he adds. "It's in our best interest for our governments to efficiently source those products and services. If the government chooses to buy only from its own jurisdiction, you won't necessarily receive the best value."

Protectionist policies, which stifle competition, also result in slower service and project delays, as governments attempt to operate isolated in an environment with limited resources, notes Koslowsky.

"What free trade does is it balances things out on a much larger scale and allows the flow of goods and services in the most efficient manner possible, passing along lower prices, better quality, and faster delivery."

Consumers ultimately find themselves with a wider variety of more affordable goods and services, and more money to spend or save, which supports the overall economy.

"What happens to the industry, then, is there is a serious effort to be competitive," says Koslowsky. "If you have more competition, you're going to need to be good at what you do. The companies that have an eye toward satisfying customers are going to be those that get the business." ¶



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The sky is the limit

Meet one Prairie manufacturer taking 'drone' technology to new heights

By Karen Brownlee

Flying has always inspired the imagination.

It took *imagination*, after all, to conceive that flying was first possible for humans. But once we took flight, we were able to look back on where we had originated with awe.

The ability to gaze down upon our world offered us a new means to consider

how we live, work, and play. That bird's eye view allowed us to gather new information and evoke fresh perspectives.

We then invented new ways of capturing and building upon that vista through the use of cameras and other imaging equipment. And then we eliminated the need for us humans to climb into the cockpit altogether.

Whatever you call them — *drones*, *unmanned air vehicles (UAVs)*, *remote piloted aircraft systems* — they have given way to a new industry of opportunity, and have inspired imaginations yet again.

Agriculture, construction, mining — sectors woven through every facet of our economy are now scrambling to understand the capabilities and limitations

of the technology, and what it means for the future of how businesses, and governments, operate.

Just a handful of companies in Canada consider themselves *manufacturers* of this technology, with a few others self-classifying as *developers*.

Ben Miller works for one of those that considers itself a true manufacturer. But that wasn't where he was introduced to the world of UAVs. Miller initially became intrigued with the concept while working with the Mesa County Sherriff's Office in Grand Junction, Colorado.

There, he experimented with products from several pioneering enterprises, including Draganfly Innovations, a small manufacturer some 1,400-plus-kilometres north, in Saskatoon, Saskatchewan. During his tenure, Miller helped develop America's first operational program using UAVs at a state or local level of law enforcement.

"We tried stuff and left the stuff that didn't work like [the manufacturers] said it would, or if it just wasn't a good fit," recalls Miller. "Draganfly is really

the company and the technology that survived."

The firm made international headlines in 2013 when its UAV-propelled infrared technology helped Saskatchewan RCMP locate a man injured and lost after his vehicle rolled into the ditch.

The man suffered a head injury in the accident and, disoriented, wandered away in the snow. He was found curled up next to a tree, unresponsive, but was later taken to hospital and released the same day.

"UAVs brought on the democratization of aviation. They have disrupted the economics of aviation."

For law enforcement, UAVs add another layer of capability.

Take, for instance, needing to gain an aerial view of a crime scene. Previously, the use of a manned helicopter had the potential to destroy the integrity of the scene due to the power of its rotors. A smaller, more versatile UAV, on the

other hand, keeps the scene intact, while documenting information that is spatially accurate.

It is more cost effective — and, arguably, safer — than putting people in the sky as well.

"UAVs brought on the democratization of aviation," says Miller, who now works in sales and business development for Draganfly. "They have disrupted the economics of aviation."

But Draganfly alone has extended its reach well beyond the realm of public safety. Aerial photography, industrial inspections, and environmental research are only a handful of applications it serves daily.

Opening the technology up for civilian use, adds Miller, helps reassure the public that it has nothing to fear from UAVs.

"It's not scary," he says. "I can tell you that, in eight years of operating UAVs in the law enforcement space, I've never done anything questionable from a privacy perspective [or] from an ethical perspective."

While some remain trepid, Doug Hanna, chief technical officer with the

Continued on Page 48



Alberta-based Canadian Centre for Unmanned Vehicle Systems, points out UAV technology used by the military today is aimed at protecting, not infringing on, what we hold dear.

Through his work with the Canadian Department of Defence, Hanna notes that some UAVs have helped detect improvised explosive devices, while others are able to pinpoint chemical and biological weapons.

“Almost always, the defence applications lead out — just because, at the early development stage of new technology, those advancements are expensive,” he explains. “That’s why we see the U.S. has led this globally, hands down.”

But Canada is building a thriving industry of its own. In the late 1980s, CFB Suffield — near Medicine Hat — drew widespread attention from the private sector for its research into the use of robotics, which has resulted in a spill-over effect with UAVs.

Hanna also credits the province’s position as a global agricultural hub for the noteworthy attention.

The farming industry is leading civil applications for UAVs. Monitoring

crops for irrigation is just one possibility; however, at the moment, it can only be done on a small scale.

The primary reason? Regulation. Currently, those operating UAVs must comply with the terms of their *Special Operations Certificate* issued by Transport Canada. That includes keeping aircraft within the *Visual Line of Sight* — equivalent to roughly 160 acres, a fraction of the modern Western Canadian farm.

To fly beyond these boundaries, Hanna says, the technology must be further advanced, integrating detection systems that allow UAVs to identify and safely respond to other aircraft at top speeds. Then, regulations will need to be updated.

Hanna recognizes, though, that not all technology must precede regulation. On the contrary, he would be one party advocating a flip to the approach, believing that once the proper regulations are in place, industry will respond and innovate accordingly.

Miller agrees. “We talk to customers all the time who say, ‘Hey, I’m thinking it’s great, but I definitely don’t want to make the investment until the [proper] rules are

in place,” he explains. “[They] don’t like the idea of going through an elongated permission process.”

South of the border, lawmakers are making headway.

The Federal Aviation Administration announced last year it would be publishing a rule regulating commercial operation of small unmanned aircraft systems mid-2016.

Transport Canada followed suit with a similar commitment, choosing to focus on systems 25 kilograms or less operating within the *Visual Line of Sight*.

Miller contends that additional applications for UAVs will be discovered as regulations make more people comfortable using them. But, he suggests, there is a limit.

“You have to be a pragmatic technologist as an ethos. A lot of times, in early industries, especially technology industries like this, you see people saying the drone is the solution to everything.”

Hanna, meanwhile, believes roughly 80 per cent of the applications for the technology have already been identified; yet, not all those applications have the maturity or regulatory framework to be successful.

But, as the Pareto principle dictates, the remaining 20 per cent will help the industry soar to new heights. We are limited, still, only by our imagination. ☞

“Almost always, the defence applications lead out — just because, at the early development stage of new technology, those advancements are expensive. That’s why we see the U.S. has led this globally, hands down.”

Brexit at a glance

Hours after British citizens voted to secede from the European Union, Prairie Manufacturer Magazine Editor Derek Lothian sat down to answer three pressing questions on what the ‘Brexit’ may mean for Canadian manufacturers

Will the referendum results alter the Comprehensive Economic and Trade Agreement (CETA) between Canada and the European Union?

The U.K.’s departure from the E.U. will undoubtedly have implications on CETA — the largest and most ambitious trade pact ever negotiated by Canada. There are two clear-cut downsides:

First, the U.K. accounts for roughly three per cent of Canadian exports on its own — our nation’s third largest trading partner. Exclusion from CETA will likely keep intact many, if not all, of the tariff and non-tariff barriers currently in place until a new, U.K.-specific deal can be reached. And that could take years. Manufacturers that have invested or planned to invest in the U.K. as an access point to Europe will then need to re-strategize, and explore other avenues of market entry, as Britain will no longer fall under CETA — an agreement that may now be much more difficult to ratify without one of its most ardent supporters (although, in theory, the E.U. could finalize CETA with the U.K. still in its ranks, and subsequently include it in exit negotiations).

Secondly, it will also open up a window for our competitors, like the United States, to pursue similar deals with the U.K. — an advantage that was enjoyed by Canada under the original CETA arrangement. In business, timing is everything. So, if Canada wants to retain its leg-up, it needs to frame CETA as a model by which the U.K. can turn to in shaping its first independent foreign trade agreement.

Could the Brexit affect currencies long-term?

Absolutely, although it may take weeks — even months — to realize the full repercussions. The most probable scenario is a

strengthening of the U.S. dollar against the pound, which, in turn, could slow U.S. exports. That would deliver a combination punch, dragging down commodity prices and shaking the stability that has renewed confidence in U.S. economic growth.

The loonie, meanwhile, will fall, but not as much as the euro and the pound, so Canadian exports to the U.S. will be competing with cheaper offshore imports.

The biggest question is what happens to stocks and other financial assets. The U.S. dollar is up in the early hours after the referendum because of expected volatility in financial markets — fear that this could trigger another global recession, and restrict the fluidity and availability of capital as it did in 2008.

What is the biggest risk still looming?

The dreaded ‘U word’ — *uncertainty*. Some economists suggest the *Brexit* will have relatively minor consequences. Others believe it will result in financial ruin across many parts of Britain and the E.U. Only time will tell.

Regardless of which narrative you subscribe to, one thing is for sure: It will take years for the U.K. and Europe to sort out a web of complex trade relationships — and that is the best-case scenario, assuming other E.U. members don’t soon follow the U.K.’s lead. Within the European bloc, member countries trade freely without tariffs. Now that the U.K. is a solo act, companies will be left wondering where to setup bricks and mortar, and whether new tariffs will be enforced that greatly impact margins and, ultimately, competitiveness.

On the flip side of that coin, if CETA does become ratified, it is entirely possible that U.K. manufacturers may actually receive better access to the European market through Canada than on its own — creating new opportunity for partnerships and investment here at home. ☞



“If CETA does become ratified, it is entirely possible that U.K. manufacturers may actually receive better access to the European market through Canada than on its own — creating new opportunity for partnerships and investment here at home.”



GORP Founder, Colleen Dyck, supervises the production of her Clean Energy Bars.

NO COUNTRY FOR OLD MEN?

Once a male-dominated industry, manufacturers are now embracing women in executive roles

By Jonathan Hamelin

When it comes to changing demographics in manufacturing, Hayley Milloy is more than happy to throw around titles.

Milloy is the marketing and program coordinator for *Women in Manufacturing*, a national association based in Independence, Ohio, dedicated to supporting, promoting, and inspiring females pursuing a career in the manufacturing industry.

Today, women comprise roughly 36 per cent of the manufacturing workforce in Canada, compared to 29 per cent in

the U.S. Of that number, however, the corner office is becoming especially female-centric.

"We represent nearly 700 members, from around 350 companies," says Milloy. "Half our members hold titles such as CEO, president, or director — mid- to high-level leadership roles."

Back at home on the Prairies, Richelle Titemore is a shining example. Titemore is the CEO of S3 Enterprises Inc. in Swift Current — a group of companies providing manufacturing solutions to the agricultural equipment sector.

"In North America, the institutional

barriers to success in all industries, including manufacturing, have really been broken down by the generations of women that came before me," says Titemore. "I'm really thankful for that."

After graduating from the University of Lethbridge with a Bachelor of Management degree in accounting, Titemore spent more than four years as a business instructor for Saskatchewan Polytechnic, before assuming the position of controller for REM Enterprises, the predecessor to S3, in 2005. She was promoted to general manager in 2012, and was named CEO in 2014.

"The only true boundary to what can be achieved is our imagination; everything else can be conquered."

Titemore credits hard work, and high expectations of both herself and those around her, for her success.

"The only true boundary to what can be achieved is our imagination; everything else can be conquered," she exclaims. "I am constantly on the lookout for like-minded people who are compelled to the pursuit of excellence."

Next door in Manitoba, Colleen Dyck has leveraged manufacturing as an opportunity to be her own boss.

Dyck's journey began in 2003 as a new mother training for a triathlon. Put off by the taste of energy bars currently on the market, she created — over the span of nine years — GORP Clean Energy Bars, formulated to deliver the ideal composition of protein, fibre, Omega-3, and antioxidants. And taste exceptional.

"It can be tough to juggle family, business, and the dream of creating

something that will take on a life of its own and do some good," says Dyck, who received top honour at the 2016 *Mompreneur Awards*. "I have found the key to sustaining success in this business is not having an ego, and surrounding yourself with people a lot smarter than you."

At *Women in Manufacturing*, Milloy maintains that there needs to be accelerated efforts to reach out to the next generation of women, to encourage them to consider a career in manufacturing, and help shape future CEOs and entrepreneurs.

Dyck agrees, and acknowledges that women like her have a large role to play. She readily makes herself available for any public speaking opportunities that arise and regularly invites youth from local schools to tour her production facility in the bedroom community of Niverville, roughly 30 kilometres south of Winnipeg.

"Manufacturing is such an incredible, fulfilling career option, and I don't think a lot of people really see that it's there because [the industry] is so behind-the-

scenes," says Dyck. "We have to tell our stories. Our brains are different than men, and we handle things differently. The more diverse your teams are, the better results you're going to get at the end of it."

Titemore is also eager to engage the 'next generation' — albeit, with a slightly different approach. She believes the future of manufacturing will be driven by passionate innovators, who have balanced teams of experienced, disciplined, creative, and talented people, regardless of gender.

"Manufacturing offers unparalleled opportunities for training and advancement, along with personal growth," says Titemore. "It's an industry that offers employment from unskilled through to executive-level positions, with competitive salaries and predictable work schedules. The velocity of change and the incorporation of new technologies and processes means there's always something new to learn, some challenge to conquer."

"Women need manufacturing." ♀

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Opinion: From the ballot box to the 'innovation box'

By Derek Lothian

"Saskatchewan has a unique opportunity to set the standard in Canada for how modern innovation incentives can look — it is imperative we get it right."



Fresh off his third straight majority mandate, Saskatchewan Premier Brad Wall has vowed to implement Canada's first 'innovation box' incentive, aimed at accelerating corporate investment in research and development.

This proposed program, dubbed the Saskatchewan Commercial Innovation Incentive (SCII), was one of only a handful of policy priorities set forth in the Saskatchewan Party's re-election platform. In short, it is expected to provide a six per cent corporate tax rate reduction on income earned from intellectual property (IP) commercialized in the province, for a period of at least 10 — possibly 15 — years.

The question still up for debate is: *What qualifies as IP?*

In similar models around the world, that benchmark has historically been patents. And while few argue that patents should, in fact, fall under the eligible criteria, it is important that the benefit extends beyond patents alone.


The reason for this is simply the pace of technology.

In many industries that Western Canadian manufacturers serve, the innovation cycle is shorter now than ever before. Take, for example, agricultural implements: Farming practice no longer evolves every generation; it fundamentally shifts on an annual basis. So, too, must equipment.

Particularly for small- and medium-sized enterprises, the cost of filing a patent therefore does not measure up against the reward — keeping in-mind that the value of a patent is limited to the financial resources available to protect it.

A second possible barometer is parallel eligibility for federal programs such as the Scientific Research & Experimental Development (SR&ED) Tax Credit and National Research Council – Industrial Research Assistance Program (NRC-IRAP). But that alone would present challenge as well. Just ask the hundreds of manufacturers appealing or litigating SR&ED claims over the past three years.

Instead, the SCII must stand on its own merit, with its own set of controls, taking into account trade secrets, economic return, social impact, and true product and process innovation.

The purpose of any government program is for it to be leveraged. Simplicity and applicability are key. Saskatchewan has a unique opportunity to set the standard in Canada for how modern innovation incentives can look — it is imperative we get it right. 

Derek Lothian is the editor of Prairie Manufacturer Magazine and currently serves as president of Lothian & Associates Management Group Inc. — an executive advisory, training, and management practice, with clients across both Western and Eastern Canada.

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"This year, all bets are off"

The U.S. election, and how it could alter North American manufacturing as we know it

By Derek Lothian

There are few people more familiar with cross-border business than Birgit Matthiesen.

A former customs officer and 25-year veteran of the Canadian Embassy in Washington, Matthiesen now serves as director of Canada-U.S. business affairs for Arent Fox LLP, a prominent K Street law firm and private lobbying organization.

She is frequently tapped by industry groups on both sides of the 49th Parallel for her take on the state of the world's most complex and integrated economic relationship.

These days, however, knee-deep in the thralls of a historic U.S. election cycle, even Matthiesen finds herself with more questions than answers.

"There is a lot of trepidation in Canada and the United States," she laments. "Nothing harms business or the bottom line more than uncertainty, and these are very uncertain times — socially and in terms of long-term corporate strategy."

As the U.S. primary season draws to a close and the two top-of-ticket candidates all but shore up their respective party nominations, Matthiesen is imploring Prairie manufacturers to keep an eye on several files that may have a significant impact on their operations come the fall:

Trans-Pacific Partnership

The big question for Canadian companies, Matthiesen suggests, is whether the traditionally pro-trade Republican Party will stay the course on GOP frontrunner Donald Trump's anti-trade campaign rhetoric. House and Senate Republicans have each signalled their support for joining the 12-member Trans-Pacific Partnership (TPP) — the most comprehensive trade agreement ever pursued — yet Trump has remained more aligned with his opponent on the other side of the aisle than those within his own party.

The Democrats' position is equally unclear. Despite supporting the deal as Secretary of State, Hillary Clinton has also now changed her tune as a presidential candidate.

Matthiesen contends there is reason to believe those positions may change again.

"In the United States, trade has become a bad word. The traditional messaging has not resonated in many corners of the U.S. community."

"Apart from the political system, there are two forces at play on TPP," she explains. "The first is the U.S. business community. Even with NAFTA, I cannot remember another time when there has been this much momentum by most — if not all — of the main business associations in the United States. And they will continue to have their voices heard."

This past June, 400 American companies across 10 states penned a joint letter to Congress pushing for U.S. ratification of the agreement.

"The second force is geopolitics. Most people would agree that the U.S. and Japan are the two largest members of the TPP. Japan has much to gain, and will put a lot of pressure on the United States. And they have leverage. Not only are there security concerns in the region, but China — the big elephant standing right outside the TPP room — has engaged in exploring its own economic and trade agreements in the Pacific and beyond."

Many policy experts believe that a driving force of the TPP is to draw China, which is not a TPP signatory, into the world trade body. They worry that if the accord is not ratified, and China remains aggressive in signing its own trade deals, the North American 'pivot to Asia' may devolve into heightened levels of outsourcing.

The danger is compounded by an inwardly focused American electorate, agitated by the narrative of lost jobs and unfair competition.

"In the United States, *trade* has become a bad word," says Matthiesen. "The traditional messaging has not resonated in many corners of the U.S. community."

Under the current rules, TPP cannot come into force unless backed by members comprising 85 per cent of the collective GDP — meaning if the United States or Japan were to back out, Canada would not likely capitalize on the immense opportunity the agreement presents.

Borders and regulation

Earlier this spring, Congress passed legislation handing U.S. Customs and Border Protection new authorities and resources to combat the perception that foreign exporters are actively circumventing U.S. trade remedy investigations.

While China and the dumping of cheap Chinese steel were particularly square in Uncle Sam's crosshairs, Matthiesen cautions that Canada will fall under the same provisions, and Canadian companies must prepare for more intense scrutiny.

"Canada feels it has this really good, *special* relationship with the United States," she says, tongue-in-cheek. "The problem with that is every country thinks it has a good and special relationship with the United States. While folks like me may not think it is necessarily fair, Canada will need to comply like everybody else."

The post-9/11 environment has centred around a border built on security. Moving ahead with a new administration, those parameters will likely edge further towards a border built on competition.

What can Canadian manufacturers do? They need to be ready.

"Canada feels it has this really good, special relationship with the United States. The problem with that is every country thinks it has a good and special relationship with the United States."

"We have entered a new era of assurances across supply chains, and the word going forward is *trust*," Matthiesen exclaims. "U.S. consumers and U.S. companies doing business with a foreign partner need to know that product comes from a trusted manufacturer. It's a matter of branding — that's where Canada can have a competitive advantage."

Competition for investment

Over the past several years, state governments across the United States have been upping their game to entice foreign investment. In fact, New York recently instituted state income tax relief for up to five years from revenues earned as a result of outside investment.

Similar abatements and other incentives are exploding in popularity. The challenge, Matthiesen believes, will be in sustaining those programs.

Federal law dictates that all state budgets must balance at the end of each year. That means the next federal administration may be forced to lean heavily on legislation such as *Buy America* to continue drawing in companies — but with a 'stick' opposed to a 'carrot.'

"Many Canadian companies have already had to setup U.S. operations because of *Buy America* policies to meet U.S. domestic content requirements," she adds, noting the majority of those businesses opt to keep their C-suite, research and development functions, and engineering capacity north of the border. "That will continue. The best advice is to know what *Buy America* is and what it isn't. Know the rules, and get professional help if need be."

Protectionist provisions now span numerous federal agencies and trickle down to state projects where federal funds are used, encompassing infrastructure, transit, aerospace, and countless places in-between.

Other issues to watch

"Prairie manufacturers should be cognisant of what approach a new administration takes to address game-changing events of the past year — for example, how it navigates thawed relations with Cuba or administrative changes to recent U.S. export control reform," says Matthiesen. "They also need to keep tabs on how the administration will work with Congress to pass foreign corrupt practices laws. That will be important for U.S. investment abroad, and will always impact Canadian suppliers to U.S. regulated exporters."

Finally, it wouldn't be an election if we didn't talk taxes.

"I've been hammering this one home with Canadian businesses: Keep an eye on U.S. tax reform. It has been on the backburner for the past five years now. There will be winners and losers, and it will probably come up in the first year of the administration." ¶

SEVEN DEADLY MARKETING SINS MANUFACTURERS SHOULD AVOID

By Ryan Townend

We're Canadians — we don't like talking about ourselves. Instead, we've historically preferred to let our work do the talking for us.

For decades, that approach served us just fine. Manufacturing surged on the back of innovation, sheer determination, and quality of service, while the rest of the economy rode a wave of commodity demand and resource development.

But a lot has changed in the past 50 years. That little thing called the Internet was introduced, for starters, and the world has consequently become a much smaller place. What previously could only be done in a capital-intensive factory can now be accomplished in a home office, and the global borders of competition have all but evaporated.

Marketing now matters. The truth is: It's always mattered. But never before has it been such a defining line between growth and stagnation.

The problem is many manufacturers find it intrinsically unnatural. Often, at best, it is a function isolated from the rest of the company — a department or lonesome individual for which there is no table in the middle-school cafeteria. At worst, it doesn't really exist.

If you fall into either of those categories, please remember there *is* hope. *Marketing* doesn't need to be a dirty word, associated with wasteful spending and Don Draper-type haircuts. It can be a power for good — jobs, revenue, higher wages, a happier boss (or board). Just be sure to avoid the 'seven deadly sins' that can turn any marketing strategy into a big, fat albatross on your bottom line:

"Marketing now matters. The truth is: It's always mattered. But never before has it been such a defining line between growth and stagnation."

1. Relying on reputation without a strong brand

When asked what separates them from the competition, manufacturers routinely speak of their sterling reputations and unsurpassed experience. All likely true, I should add. Most, however, fail to understand that reputation and expertise are good ingredients for survival — not to become a market leader. For that, you need a brand.

These two concepts are not the same, although reputation is part of the brand equation. A brand is the full expression of the character and value of a company, and what makes that company special. It isn't merely a logo, a tagline, a culture, or a customer experience — it is a representation of all those things. Think *Kleenex*, think *Band-Aid*, think *Disney*. These products, these companies are more than the sum of their parts.

A compelling brand is essential for one reason: *Money*. According to a recent study, companies that have successfully established a leading industry brand name command a price premium of up to 14 per cent.

2. Not supporting your sales force

Efficient selling requires effective marketing. Salespeople are often more effective than broader marketing tactics alone, especially in a B2B context, but the cost to sell directly to the customer is much higher. Efficient selling requires an optimal mix of direct-selling and broader marketing initiatives to reduce the cost of each sale and increase profitability.

The job of marketing is to create a suction of demand. Your strategy should have measured key performance indicators, including, but not limited to, a greater volume of leads and shorter sales cycles.

"A compelling brand is essential for one reason: Money. According to a recent study, companies that have successfully established a leading industry brand name command a price premium of up to 14 per cent."

Think of it this way: You employ the best carpenter in your community. He brings 30 years experience, a great attitude, and a reputation for finishing on time and on budget. Is his day best spent making cold calls? And when there is work in the queue, why would you send him out to the jobsite without the right tools?

3. Ignoring technology

Don't discount social media just because you're not sure of 'the fit' with your business. If you sell anything, employ any number of human beings, pay taxes, or are invigorated by new ideas, trust me, there's a fit. You've heard of YouTube, correct? It's more than a time-sucked universe of cat videos and make-up tutorials. For manufacturers, it can also be an instant product manual, capable of visually demonstrating everything from installation to repair in a way that transcends language or reading comprehension.

4. Refusing to stand out

Be honest with yourself: Do you manufacture a product that another company, somewhere in the world, couldn't manufacture as well? Doubtful. The pace of competition is rampant. Yes, you need to amplify your message to standout; but, if you have a dozen different voices yelling at the same time, what do you get? Just a lot of noise.

Marketing is there to cut through the noise — to define your unique value proposition. Take, for instance, Canadian Isotope Innovations (CII), a Saskatoon-based

start-up manufacturer of the most-used medical isotope for diagnostic procedures. Most of their competitors were presenting themselves through the lens of science, lab coat-clad and surrounded by highly advanced equipment. CII quickly realized, however, its reactor-free isotopes were good for both people as well as the environment — so that is exactly where we took their brand: *A healthier world with healthier people*.

5. Failing to understand your customers

You know your customers, right? Of course you do. That's what's gotten you to this point. Okay, well let's talk about taking you beyond 'this point' to a bigger, better, and more profitable place. For that, you need to dive deeper.

Knowing your customers well sounds like a simple feat. After working on hundreds of projects with manufacturers and processors across the Prairies, though, I can tell you it is not. That becomes exponentially more challenging as your business grows internationally, sometimes to markets that speak a handful of different languages and hundreds of different dialects. Do you know their media consumption habits? Do you know their cultural norms? Have you properly translated your materials? Assume nothing.

6. Being too thrifty

Few respect the importance of marketing as a revenue generating activity. It is not an expense; it is an investment

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"Knowing your customers well sounds like a simple feat. After working on hundreds of projects with manufacturers and processors across the Prairies, though, I can tell you it is not."

— an investment for which you should expect to receive a significant return.

So, how much should you be spending on marketing? For as many so-called 'marketing experts' you ask, you're sure to receive at least as many answers. The magic number frequently floated around is 10 per cent of annual sales. And while that may represent a half-accurate benchmark, it is in no way a one-size-fits-all solution.

Are you marketing a new product? Are you an established company? These questions influence the requirements. Keep in-mind that manufacturers actually

outpace the business average for investment levels, too. It is not uncommon for manufacturers to spend 20, even 30 per cent of revenue. The age-old adage is true: It costs money to make money.

7. Executing without focus

I won't beleaguer the point, as I've mentioned it a few times already, but it is the deadliest of sins, so let me repeat once more: Marketing is an investment that must drive performance. Set and hold true to metrics. Align tactics to objectives. Track and report on results. Otherwise, you will not be successful. ¢

Ryan Townend is the CEO of William Joseph Communications, an award-winning marketing firm, with offices in Calgary and Saskatoon.

Prairie manufacturers are world-class. Our people, our products, our dedication to service stand above the crowd. It's time we tell our stories. This article is the first in a series exploring marketing in the manufacturing industry, and how Prairie manufacturers can forge a stronger brand, both here at home and on the global stage. Tweet us your thoughts at @prairiemfg!

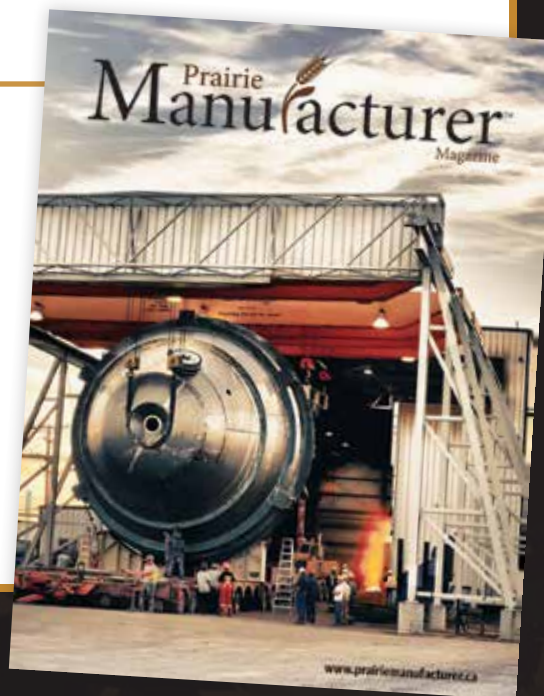
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Bringing the world to our doorstep

Fifty-two countries represented, \$500 million in sales reason to celebrate the 39th edition of Canada's Farm Progress Show

By Derek Lothian

It is known on the Prairies as the 'backyard' showcase for agricultural equipment manufacturers. But outside our own borders, Canada's Farm Progress Show has become the global destination for the latest in ag technology.

Agbor Ndoma, executive director of the Centre for Sustainable Agricultural Development in Nigeria, is one of more than 700 visitors who traveled to Regina from 52 countries this past June to take in the show. He was the first Nigerian delegate in the event's 39-year history.

Ndoma came away exceptionally impressed with the volume of Canadian-made innovation, including with IntraGrain Technologies, a local manufacturer of mobile grain storage monitoring systems.

"In Nigeria, it can be terribly hot. Right now, if you put any grain into storage, you should be able to track the temperature and moisture content at the same time," Ndoma explains. "The technology that I saw [at the show] with IntraGrain is so incredible. I can have the temperature and moisture content right on my phone, anywhere in the world."

Chris Dekker, president and CEO of the Saskatchewan Trade &

Export Partnership, credits the show's International Business Centre (IBC) with energizing on-site sales. Organizers estimate that exhibitors racked up \$500 million in transactions over the three-day period.

"The Farm Progress Show is not only a fantastic showcase for Canada's innovative agri-equipment manufacturers — it's big business," says Dekker. "The IBC brings international buyers and exporters together in one marketplace, and provides a suite of business services to facilitate sales."

The IBC is manned by professional staff and volunteer subject matter experts, who work around-the-clock to expedite introductions and meetings between buyers, trade delegations, and manufacturers.

Show Manager Shirley Janeczko echoes that sentiment, and says the dichotomy between regional and global buyers is what makes Canada's Farm Progress Show the ideal stage to introduce new products and technologies.

This year, 17 new innovations were spotlighted, while another three formal product launches were held, helping to drive 41,000 attendees through the show

gates.

"The heart of Western Canada is the ag industry, and agriculture is thriving," says Janeczko. "Speaking to exhibitors, the people coming through the booths were not only qualified, they were buying. The whole economy the way it is, I think that is a good indicator the industry is strong."

In total, 700 manufacturers, service providers, and support organizations exhibited at the show in 2016 — 81 per cent of which are based in the three Prairie provinces and 14 per cent of which hail from outside the country.

With the show's 40th anniversary now officially less than one year out, planning is already underway to ensure it is the biggest and best yet. Additional outdoor space will be made available near the soon-to-be-completed Mosaic Stadium, and new pavement will be laid. Then, a year later, in 2018, the 150,000-square-foot International Trade Centre is expected to open its doors to Canada's Farm Progress Show.

"The demand for more space just keeps growing," says Janeczko. "And that's built on reputation. This is where you come to secure the sale."

"The heart of Western Canada is the ag industry, and agriculture is thriving. Speaking to exhibitors, the people coming through the booths were not only qualified, they were buying."



Small innovations enormous possibilities

By Pat Rediger

Nan-o-tech-nol-o-gy
(noun):

Science, engineering, and technology executed at the nanoscale — equivalent to one billionth of one metre.



The National Institute for Nanotechnology's advanced electron capabilities are sought after by companies looking to optimize new nanomaterials for use in industrial processes and manufacturing.

Manufacturers like to think big. In today's competitive global economy, it's a prerequisite to success. But many experts, like Andrew Myles with the National Research Council, are encouraging companies to set their sights much 'smaller' — to the nanoscale, to be exact.

"One nanometre compared to one millimetre is the same as one millimetre compared to one kilometre — a million-fold difference," explains Myles. "We're talking about molecules and the assembly of atoms. If you're making a layered system, you may be laying down thin films that are only nanometres thick."

At the National Institute for Nanotechnology (NINT) in Edmonton, Myles is responsible for the organization's Innovation Centre and Industrial Innovation Support Program. The centre currently houses roughly 20 private businesses actively exploring commercial applications for nanotechnology and nanoscale production.

Although nanotechnology is not exclusive to any one sector, Myles believes manufacturers stand at the cusp of the opportunity. Coatings, for example, represent one area where the possibilities may be revolutionary.

"One nanometre compared to one millimetre is the same as one millimetre compared to one kilometre — a million-fold difference. We're talking about molecules and the assembly of atoms."

"The goal in creating a coating is to use the least amount of material to cover the most area," he says. "If you want to cover a floor with rock, you can either do it with giant boulders or tiny pieces of sand. Through the use of nanotechnology, you can utilize a process that breaks the rock down into smaller particles, which can then be used to more accurately fill in the spaces."

Food packaging is another application where industry is taking notice.

Many companies in the marketplace today use high barrier films that trap certain gases while excreting others. Nanotechnology can help refine this process by creating a platelet maze that allows gases with only specific properties to pass.

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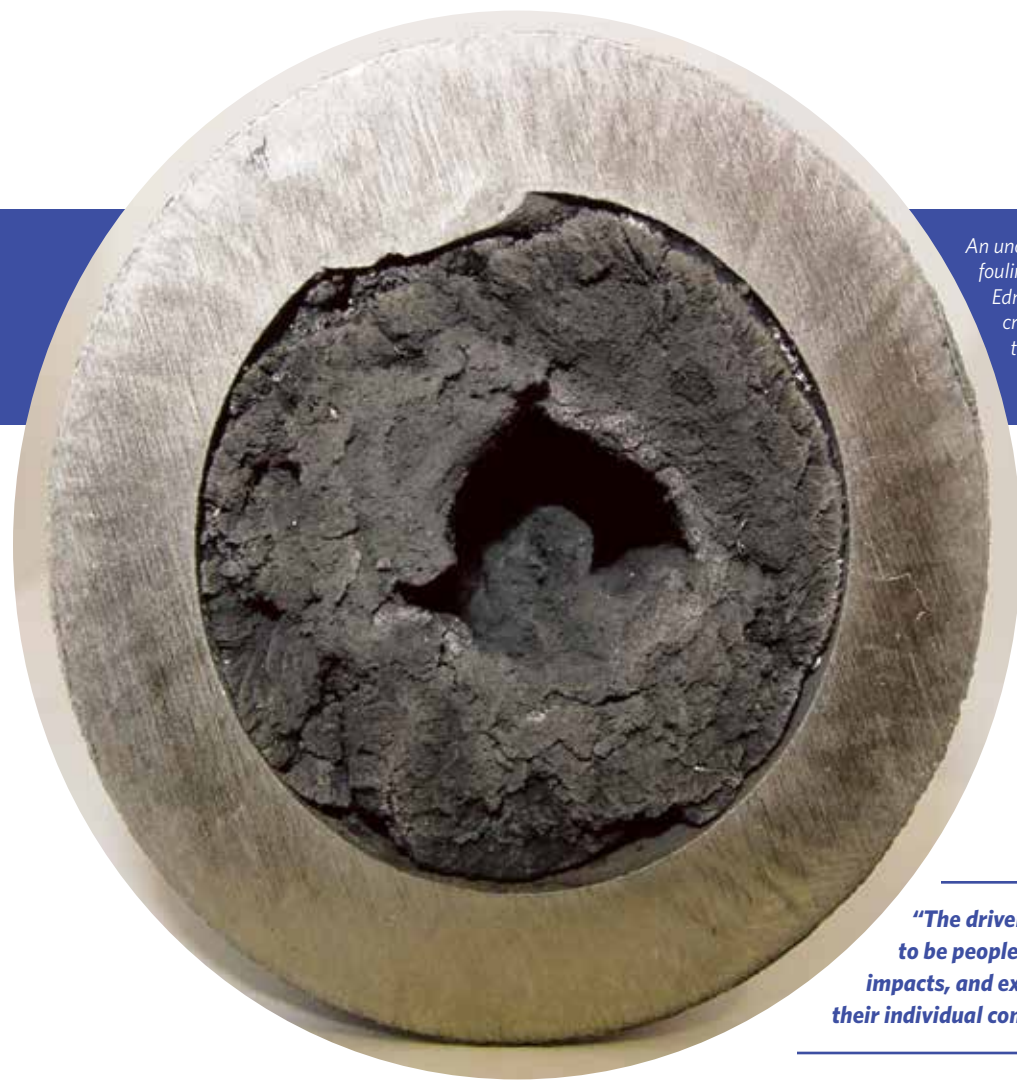
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An uncoated tube with out-of-control carbon fouling. CAMOL™, a product designed by Edmonton's Quantiam Technologies Inc., creates an outermost surface on the tube internal of 2-3 atomic layers (less than one nanometre) that eliminates both sources of carbon fouling.

"The driver for nanotechnology is going to be people realizing how many sectors it impacts, and exploring to find out how it fits for their individual company."

Founded in 1998, Alberta's Quantiam Technologies Inc. is one enterprise that has turned a nanoscale focus into big business.

"I was involved in nanotechnology before it really became a word," recalls Quantiam Founder Steve Petrone. "In the early days, the understanding was that the only people who were making money from nanotechnology were those telling you how much money you were going to make from nanotechnology. That's quite common in how emerging sectors begin or become adopted."

Petrone, however, immediately saw boundless potential for the field. From the beginning, Quantiam explored leveraging nanotechnology for reducing energy and greenhouse gas emissions, as well as for lifecycle improvements of critical materials used in extreme operating environments.

One of Quantiam's landmark achievements has been its work with *olefins* — unsaturated hydrocarbons that are key building blocks in industrial chemicals and plastic products. They can also be used in the creation of synthetic rubber.

In 2001, Quantiam partnered with Calgary-based NOVA Chemicals to develop a more efficient way to produce olefins, inventing a catalytic coating product called Catalyzed-Assisted Manufacture of Olefines, or CAMOL™.

The coating works in two ways: First, it acts as a barrier to protect the inside of radiant tubes from carbon deposits;

then, second, it acts as a catalyst by gasifying coke and coke precursors, which attempt to collect on the inner surface of furnace tubes. This dual-pronged approach results in a significant reduction in build-up.

Following several investments in CAMOL™, a new entity was launched in 2011 to commercialize the technology alongside German chemical giant, BASF. Five years later, in March 2016, a Quantiam-led consortium forged new ground again, securing a \$4.25 million grant from Sustainable Development Technology Canada to advance two new coating technologies.

While not every manufacturer will embrace nanotechnology to the extent of Quantiam or NOVA Chemicals, Myles believes boosting awareness is the first step towards becoming more accepted by the mainstream.

"At the NINT Innovation Centre, the tenant companies work in many different fields," says Myles. "We have a micro-technology company working on a computer chip design, an environmental remediation company working on new demulsifiers, a biotech company making a genetically-altered mouse liver for hepatitis vaccine, and so on."

"The driver for nanotechnology is going to be people realizing how many sectors it impacts, and exploring to find out how it fits for their individual company." ⁸



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