

# Plant

MAY/JUNE 2021

**PLANT.CA**

CANADA'S  
MANUFACTURING  
MAGAZINE 🇨🇦

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# WOMEN IN MANUFACTURING

On May 13th, Annex Business Media's Manufacturing Group teamed up to host Women in Manufacturing, a **one-day virtual summit** that brought together industry experts and thought leaders **to promote gender equity, diversity and inclusion in Canadian manufacturing.**

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EDITORIAL  
BY MARIO CYWINSKI

## Manufacturing Redesigned

**Y**ou might not have recognized *Plant* in your mail box this morning.

Over the last six months, we have been hard at work on a new design for *Plant* magazine. As the incoming editor, I felt it was time to take the brand to the next level in terms of appearance, readability, and position in the industry.

Our new tag line is “Canada’s Manufacturing Magazine,” which reflects *Plant*’s position as the go-to source for everything manufacturing and beyond. For 80 years, *Plant* has delivered the information you need to manage your manufacturing operation. Manufacturing has changed completely since our launch in 1941. A tour of a facility today would be almost completely unrecognizable to a worker from the 40’s.

The pace of change in manufacturing is ongoing and it is accelerating. Advanced Manufacturing, machine integration, LEAN manufacturing, and data usage presents great opportunities for growth for Canadian manufacturing.

*Plant*’s annual Advanced Manufacturing survey tells us that adoption of technology to optimize production and processes is up year-over-year. The 2022 version of the survey is now in the field. Please take a moment to fill it out and let us know how your company is doing.

While the look and feel of *Plant* has changed, the in-depth features that you have come to expect, will continue to be provided. If there is anything you believe we should cover in the future, don’t hesitate to let us know.

Today, a multifaceted approach is needed, as everyone, and especially those in the manufacturing industry, are pressed for time. As a result, while originally only a print-based brand, *Plant* now has a presence on social media (across many platforms), digitally (through a website, e-mail newsletter, e-blasts, and more), and with annual

surveys (Advanced Manufacturing Outlook, and Executive Salary Survey).

Very soon, you will also see changes to all our platforms, incorporating the new design language from this print issue.

Also, in the near future, we will be launching a new *Plant Talk Podcast*, where we will feature conversations with industry leaders, about topics that are of utmost importance to our readers. Stay tuned.

We have packed this issue of *Plant* with plenty of amazing content, which no matter the look, has always been the bread and butter of the brand.




**We have packed this issue of *Plant* with plenty of amazing content, which no matter the look, has always been the bread and butter of the brand.**

In this issue, our cover story by Rehana Begg looks at supply chains and how the pandemic has been a disruption, and how it has ushered in a new period of decision-making.

Some of the topics we cover are: Why lack of communication is the #1 killer of employee performance by Shawn Casemore (page 7), Is your supplier an asset? Or an expense? by Richard Kunst (page 8), Understanding cyber insurance by Rehana Moosa (page 10), and Protecting our front line by Andrew Snook (page 14).

Also, *Plant*’s associate editor Maryam Farag, recently had the opportunity to speak with Stellantis’ Tania Pratinicki Young to discuss her role as Plant Manager, Dundee Engine Plant, and what led her to a career in automotive manufacturing (page 16).

Enjoy the new look of *Plant*, and as always, don’t hesitate to send us your questions, comments, story ideas, and anything else manufacturing related that you may have on your mind. 

**MARIO CYWINSKI, EDITOR**

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# Plant

CANADA’S MANUFACTURING MAGAZINE

MAY/JUNE 2021 • Volume 79, Number 3

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### SUBSCRIPTION RATES

Canada – \$76.00 per year  
USA – \$201.00 (CAD) per year  
International – \$227.00 (CAD) per year  
Single copy – Canada \$12.00

Add applicable taxes to all rates. Combined, expanded or premium issues, which count as two subscription issues.

ISSN: 1929-6606 (Print), 1929-6614 (Online).

### PUBLICATIONS MAIL AGREEMENT NO. 40065710

Return undeliverable Canadian addresses to:  
PLANT Circulation Department,  
111 Gordon Baker Rd. Suite 400,  
Toronto, ON M2H 3R1

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### PRINTED IN CANADA

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## AUTOMOTIVE

### 2022 HONDA CIVIC SEDAN BEGINS PRODUCTION IN CANADA

Honda has started production of the 2022 Honda Civic Sedan at Honda of Canada Mfg. (HCM) in Alliston, Ontario.

Honda's approach on the new Civic is a "man maximum/machine minimum" philosophy that maximizes cabin space for people, and minimizes space required for mechanical components.

Faced with travel restrictions due to COVID-19, Honda R&D engineers from Japan and the production engineering team in the U.S. were prevented from coming to Canada. Therefore, HCM engineers took on a larger role in preparing the 2022 Civic Sedan for mass production.

HCM is also building the 2.0-litre, four-cylinder engine.

### OSHAWA ASSEMBLY TO START PRODUCTION EARLIER THAN EXPECTED

General Motors will move ahead its start of production at Oshawa Assembly to fourth quarter 2021, instead of an anticipated start of January 2022.

"Working with the Canadian government and our Unifor partners, GM is pulling ahead truck production at Oshawa Assembly to Q4 of 2021, ahead of the previous target of January 2022. Oshawa has a long history of innovation, speed and launch excellence and is on track to deliver one of the fastest plant launches in GM history," said Scott Bell, President and Managing Director, GM Canada.

The C\$1.3 billion investment to prepare Oshawa for pick-up truck production includes:

- Installing a new body shop, to occupy the equivalent of 13 acres;
- Installing over 1,200 new robots, covering 30 acres of automation;
- Installing 3,150 metres of new conveyors, and 500 kilometres of electrical wiring.



2022 Honda Civic Sedan Photo: Honda

## TECHNOLOGY

### HEXAGON OPENS TECHNOLOGY CENTRE IN MONTREAL

Hexagon's manufacturing intelligence division announced the opening of its new technology centre in Montreal, Québec.

The co-working space will be utilized in partnership with Leica Geosystems Ltd., a part of Hexagon, and a geospatial technology provider in the greater Montreal area.

The technology centre provides a product showcase area where Québec manufacturers can get an in-person look at solutions for production, automation, metrology and reality capture applications. The office will serve as a regional hub of talent, technology and training to support customer learning, testing, technical support and product demonstrations.

The Montreal technology centre will house measurement machines, vision systems, portable measurement arms, structured light scanners, and laser trackers for dimensional measurement and metrology-related automation.

## FOOD AND BEVERAGE

### GOVERNMENTS INVEST IN MEAT PROCESSORS CAPACITY IN ONTARIO

The Governments of Canada and Ontario are investing over \$7 million to increase production in meat processing plants across the province.

Through the Canadian Agricultural Partnership, 74 projects are receiving cost-share funding to purchase or upgrade equipment that will improve production and safety measures in

free-standing meat plants and abattoirs in Ontario.

This initiative will help address supply chain disruptions through the purchase and installation of machinery including temperature sensors, bench scales, waterproof industrial screen and labeling; converting a regular freezer into a blast freezer; and purchase and installation of vacuum packaging equipment.

## TRANSPORTATION

### NEW STRETCARS FOR TORONTO TRANSIT COMMISSION

A purchase of 60 streetcars has been announced for the Toronto Transit Commission (TTC), through an investment of \$180 million from the Ontario government.

The \$180 million will be matched by the Government of Canada, with the City of Toronto investing an additional \$208 million. The streetcars will be produced in Thunder Bay, with vehicle delivery starting in 2023.

These streetcars will help the TTC address immediate streetcar fleet needs, match capacity of customer demand, and reallocate 50 buses that are currently supplementing streetcar service to return to operation on local bus routes.

"This investment will provide double the value for Ontarians; providing the people of Toronto with state-of-the-art transit infrastructure and bringing good jobs and work to the hardworking people at Thunder Bay's Alstom plant," Greg Rickford, Minister, Indigenous Affairs. "Our government is taking strong action to support good jobs in Thunder Bay and strengthen Northern Ontario's manufacturing sector." ■

**\$57.8 MILLION**

Total manufacturing sales in March, which rose in 17 of 21 industries, according to Statistics Canada.



Visit [plant.ca/news](http://plant.ca/news) for more industry news and events.



Photo: General Motors Canada

# Why Lack of Communication is the #1 Killer of Employee Performance

*For many CEOs and executives nowadays, communication is by far their greatest challenge. That is not to say they are not good communicators. Quite the contrary, in fact.* **BY SHAWN CASEMORE**



However, there seems to be this unease with communicating openly with all employees.

Reasons vary, and sometimes are justified. But typically holding back on any communication is a bad idea.

A mentor once said that if you want people to perform at the levels you expect, you need to ensure they have all of the tools and information to do so. However, it seems, that there is a fear to communicate openly. Sometimes it's a fear of creating concern or worry amongst employees, such as when considering whether to share news about an unhappy customer. Other times it's simply due to a perceived lack of time available to communicate with everyone.

Ironically, it is also sometimes a control thing; a desire to control the message and in turn control the perceptions and responses of employees.

There's an argument for each of these reasons, but I'd challenge you to think differently. The goal of communication is to get as much information in the hands of employees as possible, allowing them to have a better understanding of, and connection to, the business.

## The communication disconnect

Not every employee will believe they need information about how the business is doing, or what the business opportunities look like in the coming months. But information about the business, it's customers, competitors and the broader business landscape, are all important. How else can employees make decisions in their role if they do not have a clear picture of what the future holds?

More importantly, at a time where employees are surrounded



**The goal of communication is to get as much information in the hands of employees as possible, allowing them to have a better understanding of, and connection to, the business.**

by communications influencing their decisions, the lack of communication creates a disconnect.

Unfortunately, this disconnect can trickle down throughout the organization and create bigger issues. Working with sales and customer service teams, there is often a communication disconnect. The sales team does not believe that customer service needs information on what customer opportunities they are pursuing. In turn, the customer service team does not think that the sales team requires feedback from every disgruntled customer.

Spending the time to communicate broader information may be perceived as wasteful. It's not.

If you keep employees sheltered from what's happening across the business, or try to control every message, you risk employees doing the same.

How can you confirm if there is a communication disconnect in your business? What are the specific measures to identify if you have a problem?

Here are the most common outcomes of a communication disconnect:

- High employee turnover
- Short notice on employee absences or departures
- High number of employee errors or mistakes leading to poor quality

- Low employee involvement in company social activities
- Employee disputes and disagreements

## What Can You Do?

A suggestion would be, be creative. If you need to get a message out but time is of the essence, then send a company-wide voice mail. Broadcast live-stream updates to employees. Send hand-written cards to employees at home. Use video messages embedded in email for a more personalized message.

Good employees and great customers are hard to come by. Don't let the pandemic and the desire to control messages limit your communications to employees. 📧

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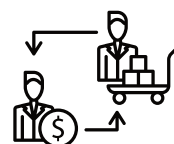
# Is your Supplier an Asset? Or an Expense?

*As an asset, your supplier is blurred into your daily operation with a common focus on success. The supplier fully understands that their success is based on how successful you become within the market. As an expense, the customer is constantly beating on the supplier for a better and lower price. BY RICHARD KUNST*



Ultimately, the situation distills down to: trust, and whether value is truly visible. This is where the first segregation transpires by defining the difference between a vendor and a supplier.

A vendor is someone you conduct a transactional exchange with, like the purchase of peanuts from the street vendor. You may not have much of a relationship with the vendor other than the consistency of ongoing transactions, or geographic location,



but it is likely something easy to find an alternate or substitution for if you cannot access it.

A supplier is someone instrumental to your success. They bring to your equation a unique product, technology or service.

When we treat our supplier as an expense, it has several visible attributes:

- We will never trust our supplier.
- Makes us constantly be searching for a better cheaper source.
- Makes us not pay our supplier on time, ever, even after we dictate extended payment terms.
- Makes us never acknowledge their contribution to our business.
- Consistent quality is a given.
- Once we have a low price, it makes us negotiate an even lower price.

The result of this expense attitude towards your supplier gives you the following:



- Excessive inventory at your location, at their location, and with WIP.
- Supplier initiates a low-cost country strategy, shops the world for cheap labour.
- Lack of transparency from your supplier.
- Typically, lower product yields or increased incoming inspection costs.
- Supplier will leverage every opportunity to get more money from you.

All of the relationship energy is focused on keeping everyone honest instead of working together to grow the business. The cost component is always driven by essentially three factors: material, labour and overhead. Labour and overhead costs can be significantly lower using a low-cost country strategy, but this needs to be traded-off against the cost to finance these costs through your supply chain and your potential loss of flexibility and agility. There is also a good chance that once you are in this rut you will be constantly shifting your supply source. Today it could be China, then perhaps Vietnam followed by India or Australia, where ultimately the supplier will never get to know your business, or the cost to manage your supply chain gets oblique against the actual procurement unit cost.

Traditional accounting methods can be the biggest asset or liability in this scenario. How can you justify waiting 16-22 weeks for goods when you could have a supplier located next door? When you look beyond unit cost and calculate your total cost of procurement, the decision to source local may make more sense. For example, add the cost to visit a supplier in China instead of across the street, the cost to finance inventory, the cost of logistics, design review challenges, time zone differences and manage quality. When you add it all up your total cost of procurement can actually tabulate to be double or triple of the actual procurement unit cost.

Ultimately, value is defined by what you are willing to pay for. You cannot blame Walmart for being one of the largest conduits

**A “supplier” is someone instrumental to your success. They bring to your equation a unique product, technology or service.**



of cheap China imports to North America when in reality the role Walmart play is to be your household purchasing department, and you make the final decision as you opt to get maximum value for your hard-earned dollars but still want to be insanely compensated for your contribution to society.

A supplier, when used as an asset, can really be a competitive advantage and can be evidenced in the following manner:

- Trusted partner
- No inventory commitment (you pay as you consume. As an example, every time a rim and a tire are installed on a vehicle, an automatic electronic payment is issued to the supplier).
- No incoming quality inspection; everything is source inspected and validated by the supplier.
- Supplier is committed to your success.
- Transparency and blurring of the lines of your relationship.
- Harmonious design reviews where emerging technologies can be harnessed together to provide an advanced value proposition to the ultimate customer.
- Typically, local.

When viewing a supplier as an asset, always take into consideration the following:

- They are committed to your success.
- They are your hidden factory, so have you optimized their capability?
- Typically for every person doing the final assembly, there exist 10 other people upstream.

- They are transparent and very open to sharing.
- You now have a combined R&D resource and opportunity further define our competitive edge.
- They are willing to take risk(s) or partner with you to achieve a challenge.

Ultimately, the market will dictate the price based on value, and the price difference between

companies can usually be measured within a few percentage points. Competitors tend to keep a pretty close eye on each other so as a third party my approach is to work with a supplier to leverage this knowledge to my advantage.

Working with suppliers is enjoyable, as we combine focus on how to grow our businesses while giving more value to the customer than constantly living in fear about our current pricing. In the immortal words from a previous colleague: “I only want our supplier to know they have a problem when I arrive in their lobby with a cadre of engineers to help solve the problem.” ■

**Richard Kunst** is an author, speaker and seasoned lean practitioner based in Toronto, who leads a holistic practice to coach, mentor and provide management solutions to help companies implement or accelerate their excellence journeys. You can reach him at [www.kunstnsolutions.com](http://www.kunstnsolutions.com).



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# Understanding Cyber Insurance

*There are several factors that manufacturers should consider before purchasing cyber insurance coverage, as having the right policy is the key to a quick recovery from a cyber-attack without major losses.* **BY REHANA MOOSA**



A few years ago, a cyber insurance claim was prepared for a well-established manufacturer. By acting quickly after the cyber-attack, the business returned to normal operations within a few weeks, but lost several customers during that time. While preparing their claim, they realized they did not have the right coverage in place. The policy limits were too low, and although they had significant fixed expenses like payroll, their policy did not cover those costs. As a result, a large portion of their losses were borne out of pocket.

This example highlights the consequences of failing to understand cyber insurance coverage or planning properly before purchasing a policy. Having the right policy can help businesses recover quickly from a cyber-attack, from an operational and a financial perspective.

Let's explore the factors that manufacturers should consider when purchasing a policy:

## **Business interruption losses**

Business interruption losses often make up a large portion of a manufacturer's cyber insurance claim. They can result from a decrease in sales, an increase in expenses, or a combination.

## **Lost sales**

Manufacturers can lose sales in several ways:

- Existing customers may switch to a competitor following a cyber-attack. This can happen if they are unable to place an order if access to email or a website is disrupted. It can also result from damage to the company's reputation if customers are aware of the attack. Potential/new customers may be lost for the same reasons as well.
- If manufacturers enter into contracts with customers, they may be cancelled if production quantities or delivery timelines cannot be met.



**Business interruption losses often make up a large portion of a manufacturer's cyber insurance claim. They can result from a decrease in sales, an increase in expenses, or a combination.**



- Manufacturers typically have a production cycle, creating a time lag between an order being placed and delivery to the customer. If production is delayed or stops, customers may cancel their orders. In this case, decreases in revenue may not be observed until the end of the production cycle; when the revenues associated with those orders would normally be recorded.
- Customers may ask for, or be offered, discounts to compensate them for delays.
- Some manufacturers generate revenues by submitting bids for new work. The opportunity to submit bids may be lost if emails are inaccessible, and notifications about open bids are not received, or if data required to prepare a bid is lost or irretrievable.

As is the case with all insurance claims, documentation must be gathered to support that lost sales were due solely to a cyber-attack. Examples of information that can be used include:

- Comparison of sales earned before and after the cyber-attack. The comparison may be done annually, monthly/weekly, or by season, depending on the nature of your operations.
- Copies of correspondence from customers indicating that orders/contracts are being cancelled due to the cyber-attack. If discussions take place over the phone, take notes (e.g. details of the order, reasons for cancelling).
- Copies of customer contracts that have been cancelled along with details of the revenues that were expected to be earned.





Under each type of policy, Widget Inc. would recover: (Table 2)

**TABLE 2**

LOSS OF NET INCOME ONLY	LOSS OF NET INCOME PLUS CONTINUING COSTS
<b>Claim under the policy:</b> Loss of net income \$100,000	<b>Claim under the policy:</b> · Loss of net income \$100,000 · Continuing payroll \$500,000 · Other continuing costs \$300,000 <b>Total \$900,000</b>

Based on this example, it seems it is always better to purchase a policy that includes coverage for continuing expenses. Not necessarily. Each business must assess the extent to which it can reduce expenses following a cyber-attack.


A manufacturer that has mostly fixed expenses likely cannot reduce its costs significantly after a cyber-attack. In this case, a policy that covers continuing costs can ensure those costs are covered while revenues are impacted. If a manufacturer has mostly variable costs, these expenses will decrease as sales decrease, meaning that coverage for continuing expenses may not be needed.

### How much coverage do you need?

An insurance broker can help determine the appropriate amount of cyber insurance for your business' specific operations. There are also publicly available sources of information that can provide guidance.

Many insurance companies track data on actual cyber insurance claims that have been filed in recent years. Data is tracked based on different parameters such as geographic location, industry, annual revenues, and the type of losses claimed (e.g. business interruption, extra expenses). This data can be used to understand the amount and types of losses claimed by businesses comparable to yours, which can guide policy selections.

Cyber-attacks are happening more frequently, and this trend is expected to continue. With respect to cyber insurance, it is important to:

- Review your current policy to ensure it meets your specific needs
- Work with a broker to buy the right coverage or review your current policy
- Understand the types of losses your policy covers 

**Rehana Moosa, CPA, CA, DIFA, CFE, CFF** is President of RMFA, a forensic accounting firm based in Toronto. Her website is [www.rmforensics.ca](http://www.rmforensics.ca).

- Copies of cancelled orders and their sales value. If orders are typically submitted through a website, compare the number of orders submitted before and after the cyber-attack to estimate the number that was lost.
- If discounts are offered to customers, record them in a separate account for easy tracking. Keep copies of correspondence with customers where a discount is offered/discussed.
- For lost bids, retain copies of the bid details and prepare an estimate of the value of the work. Provide data on the historical bid win-rate to estimate the likelihood that the lost bids would have been awarded to you.

### Increased expenses

For increased expenses, cyber insurance policies will cover the portion that exceeds normal amounts that would have been incurred absent the cyber-attack. Common examples for manufacturers include: (Table 1)

### Types of business interruption coverage

Cyber insurance policies generally measure business interruption losses as either the:

- Loss of net income only, or
- Loss of net income, plus all costs that continued to be paid while systems were impacted, including payroll

The difference between these two policies can have a substantial impact on the amount you can recover in the event of a claim.

For example, Widget Inc. suffers a cyber-attack and production is impacted for four weeks. During this time, Widget calculates the following losses and costs:

- Lost net income of \$100,000
- Continuing payroll costs of \$500,000
- Other continuing costs (e.g. utilities) of \$300,000

**TABLE 1**

TYPE OF INCREASED EXPENSE	EXAMPLES
Employee overtime	Production continues with tasks performed manually, requiring additional shifts
Use of subcontractors	Work may be sent to a competitor to avoid losing sales/customers, which can cost more than producing in-house
Labour inefficiencies	Where tasks are performed manually and take longer, there may be increased labour costs if the length of time to produce each unit is longer than normal
Meals/taxi fares	May be provided to employees working overtime
Travel/mileage	If the manufacturer has multiple locations, IT staff may need to travel to assist in recovery efforts



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# Protecting our front line

*Start-up supplies medical gowns to healthcare workers during pandemic.*

BY ANDREW SNOOK



When the pandemic was declared in March 2020, many countries around the world were left scrambling for personal protective equipment (PPE) for its frontline workers – especially for healthcare workers bravely risking their well-being to treat people suffering from COVID-19.

When Esther Vlessing saw Canada's healthcare sector struggling for PPE, she decided to utilize her skills and experience in the fashion industry and start up Canada Emergency Medical Manufacturers (CEMM) in Concord, Ont., which has supplied reusable isolation gowns that have served approximately 75 million uses in hospitals, long-term care homes,

and COVID-19 testing centres.

"Things from overseas were taking exorbitant amounts of time to get here. So, we were working with various government bodies and the largest hospital networks around the country and in Ontario. It was so important to set up a strong domestic supply chain," said Vlessing, President, CEMM.

Prior to starting up CEMM, Vlessing built and scaled the national clothing line, Arctic Trim, which was sold at retailers and big box stores nationwide, including Sporting Life. Afterwards, she took a position at Canada Goose, working in materials research on the company's design team. So, her experience was well-suited to this role.



Vlessing also received help from her father, Robert Vlessing (CEMM Chairman of the Board), and his connections in the furniture manufacturing industry. Her father ran his own company, Coja Leatherline of Canada, until it was sold in 2008, then went on to work in leather sales developing strong relationships in the sector. Vlessing was able to tap into his existing manufacturing network and its labour force during the

economic slowdown generated by the pandemic.

"When the pandemic hit, we were able to utilize his rolodex from years in the industry and invite the largest domestic furniture manufacturers to join the CEMM initiative," she said. "I was able to do the same in the apparel sector."

After setting up her plan, Vlessing contacted the Ontario Deputy Minister's Office and Department of Economic Trade and Development in Canada, and laid out her idea to execute a nationwide emergency manufacturing response unit. After receiving approval, and a multi-million-dollar purchase order, Vlessing and her team quickly got to work setting up manufacturing operations and developing their supply chain. CEMM purchased new equipment for the onboarded factories, provided design specs and raw materials, and trained them in the new product.

"This is how we built what became CEMM's manufacturing network," said Vlessing. "The key ingredient was that the largest fabric mills that service furniture companies hadn't made that type of fabric before. We told them we need them to switch over, and that took a good amount of time, before they were certified for their medical fabrics."

But once the materials were approved, things got moving fairly quickly.



Photos courtesy of CEMM.





**When Esther Vlessing saw Canada's healthcare sector struggling for PPE, she decided to utilize her skills and experience in the fashion industry and start up Canada Emergency Medical Manufacturers (CEMM) in Concord, Ont., which has supplied reusable isolation gowns that have served approximately 75 million uses in hospitals, long-term care homes, and COVID-19 testing centres.**

"The very first week after getting our first purchase order, we delivered our first 5,000 units in April. We were able to hit 60,000 units, then 70,000, and then 80,000 isolation gowns per week delivered to Ontario Health and government bodies, hospitals and long-term care homes," said Vlessing.

But those weren't the only people positively affected by the startup of CEMM. All the manufacturers that the company tapped into to create these gowns felt a big impact.

"We were able to activate over 500 domestic jobs and keep them active. They would have otherwise been shut down," said Vlessing. "We kept things local."

To help CEMM produce medical gowns to the necessary specifications, Vlessing and her father reached out to a leading producer of the gowns and they were happy to assist.

"In March, we were asked to become experts in specific medical gowns that would be worn in COVID-19 wards, so my father

and I reached out to the leading producer of these garments and spoke to the president. They said, 'We are at capacity and booked for the next year or two and can't make anymore.' So, they were willing to share their know-how, their intellectual property with us and their testing," said Vlessing. "It speaks to partnership on so many levels. Something that came up a lot is that this is not business as usual. We were there to save lives and we needed to be working our 18- to 19-hour days, because it wasn't a regular situation. We needed people to be good humans and share what they normally wouldn't share."

Components of the isolation gowns had to be strategically sourced to ensure a bottleneck did not take place in the operation. Things like thread and ties for the ribbed cuffs of the isolation gowns to ensure gloves can fit properly with the gowns.

"We had to be very strategic on how to source them, because all of a sudden you're making something very real, and you can't be

running out," said Vlessing. "It was interesting to see that those lead times for such simple things were starting to grow."

Speaking of growth, CEMM is continuing to grow and currently employs seven people at its head office and works with over two dozen manufacturers to ensure it has a secure supply chain.

"I view ourselves as the logistical mobilizers of Ontario's furniture, apparel and automotive sectors towards a common goal:

making PPE for our country," said Vlessing.

And by helping ensure there is a steady supply of medical gowns heading to frontline workers, Vlessing and her company are helping ensure a success story, not only for CEMM, but for all Canadians. ■

**Andrew Snook** is a freelance B2B magazine editor and writer based in the Toronto area.



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## In Conversation with Stellantis Plant Manager Tania Pratnicki Young

*Plant had the opportunity to speak with Tania Pratnicki Young to ask her about her role as Plant Manager, Dundee Engine Plant, Stellantis, and what led her to a career in automotive manufacturing.*



Tania Pratnicki Young

**Q: Can you discuss your career at Stellantis? How has it prepared you for the role of plant manager?**

**Tania Pratnicki Young:** Going on 44 years at the company this coming November, I started on the line as a foreman, which is now called a supervisor unit leader, at an assembly plant for Dodge Truck. I came right out of college with a degree in history, and I didn't know anything about a plant, except that they paid well, and were hiring women to be foremen.

**Young** has been in automotive operations management since 1977, and was honoured in November 2015 as one of the top 100 leading women in automotive by *Automotive News*. She is also a World Class Manufacturing (WCM) auditor; utilizing WCM methodology and systems at the plant, responsible for manufacturing operational activities including safety, quality, costs, production, engineering, maintenance, new program launch, material management and employee development.

I've been moved lots of times, I did the traditional route from a foreman into a plant manager. I was a supervisor, an area manager, a launch coordinator, a manufacturing manager, and then plant manager.

Along the way, early on in my career, I worked about six years in Mopar, which was very helpful (as a plant manager) to have cross functional experience, and it taught me a lot about material control. They were more advanced with computers back then,

this was the '80s, so I learned a lot at Mopar. I also had a lot of different special assignments, spending a year in labour, working with a large local assembly plant.

I've worked at a number of different plants, and that's what prepares you to be a plant manager. There is not one ideal path, but lots of different cross functional things, lots of special assignments, and lots of lateral moves.

**Q: Do you see yourself as a role model for young females who want to be leaders at a global company?**

**TPY:** I like to think of myself as relatively humble. Therefore, role model is not a title that I'm comfortable describing myself as, although a lot of people describe me that way. However, because there still are not a lot of women in the industry, it's still not the norm, and because I came up through the ranks, kind of the hard way.

I'm a good mentor and advisor to young women, and I encourage them to take lateral moves to do jobs that they don't think they could do. I think what's special about me is I'm a really hard worker. That's the way I was raised. I have what's called social intelligence to be a plant

manager, as you're in the people business. I'm good with interacting with other people and being able to relate to them.

**Q: What drew you to a career in automotive manufacturing?**

**TPY:** My father. I got out of college in 1977 and had a degree in history, I wanted to be a history professor, and I was accepted to a couple of nice graduate schools, but I had no money. Then, my dad said they needed to hire a foreman down at the plant, and I said, well, okay. They marched me down there and they paid \$300 a week, and in 1977 that was a fortune. My plan was to stay there and bank a lot of money and go to graduate school. I was 21 years old, and even though I was working a lot, six or seven days a week, I didn't bank a lot of money.

Then I figured that I actually kind of liked this. I told myself I survived one year, so let's see if I can survive more, but I had no intentions of doing so in the beginning. It was not something I had interest in, but I grew up in Detroit, and you don't grow up in Detroit without knowing automotive. My father had worked for Chrysler and in and around the auto industry, so that's how I ended up there.





**Q: What products do you make at Dundee Engine Plant, and how does the plant work?**

**TPY:** We're an engine plant that was originally designed to build a four-cylinder engine, and then we added a second four-cylinder engine, so we've always been a high volume engine plant for four cylinders. Recently, within the last year and a half, we added a six-cylinder engine, so we currently build four-cylinder and six-cylinder engines, all considered a high volume, and we do three-feeds, which would be the cylinders' blocks and heads and we send them to assembly. We have about a 1,000 people across three shifts, so we have a lot of people and we're high paced.

I'm responsible for everything, people, processes, safety, quality; there's nothing that goes on there that I'm not responsible for. I'm in the people business, you can have great equipment, but if you don't get great people you're not going to do well.

**Q: What has been a project you worked on that you're most proud of?**

**TPY:** I consider myself very blessed at Dundee Engine Plant, it is considered a very good plant, with a history of success. In May 2015, it was awarded silver status for its results in implementing WCM. We were the first plant in America and Mexico to achieve a silver level WCM.

When I got here, in 2012, we had achieved the bronze level. After that, in a year that was our highest volume year ever, 2015, we worked around the clock. Lots of people, lots of activity, extremely high volume, we built far more than this plant was capacitated to do, and that's when we achieved the silver level.

**Q: What advice would you give young females who want to advance a career in automotive manufacturing?**

**TPY:** There are lots of areas in automotive. Specific to manufacturing, I tell people it's not for everybody. Manufacturing is a hands-on, high-energy, everyday activity. You need a lot of energy, and you need a lot of commitment, and for a lot of people that can be difficult.



There are a lot of people that want to rise in the organization of manufacturing, but don't want to ever work a second shift, or don't want to work on weekends. Therefore, it's not for everybody; but on the other hand, it is a very rewarding feeling.

I love that at the end of the day, you either made it or you didn't, you know what your quality is, you know the number of people, you may know that nobody got hurt. You know everything; you've got all the metrics in front of you every shift. It's fast-paced and exciting.

**Q: Do you face challenges in your role with regard to being a female working in a traditionally male-dominant field?**

**TPY:** I think early on in my career, first 25 years, very few women in pure manufacturing, only some in HR and other fields. However, I never looked at myself as a woman in a man's world, I just looked at myself and said that was my job, so I got to do it.

Early on, I can certainly say that

there were instances that I can tell horror stories from. Like some men that didn't think women belonged in those jobs. I think the best way to convince and combat people, who have these prejudices or views about other people, is to prove them wrong.


There were a lot of challenges, and it was difficult. That is why there weren't a lot of women in the industry, and a lot of women would go into manufacturing, and most didn't last over a few weeks. The good news is, every year I see less of that.

There are subtle things that people still have to overcome, and that's the reality, as you have to be honest with yourself as a leader, and as an employee, that there are people that still have strange views about things that they have to overcome.

**Q: If you were to describe your whole journey in one word, what would that word be?**

**TPY:** It was certainly never boring. It's certainly been interesting. I've

been strong. I consider myself to be a strong woman. I don't think I've ever missed a day at work, and I'm a hard worker. I'm resilient, not that I don't have setbacks, or can't have bad days, but I'm positive. It's been hard. There are some years that have been really difficult, and other years that have been great, but overall, I've been very blessed. I like to see the positive in people and myself.

I think manufacturing is an exciting field for a lot of people and women should not shy away from it. I think there are a lot of opportunities. You have to love people and all the processes and the mechanical side, and when you think about a car or an engine, the glamour of that product is exciting, but what makes it like that is the people and the processes around it. 

*Maryam Farag is the Associate Editor of Machinery and Equipment MRO magazine, Food and Beverage magazine, and Plant Magazine, Annex Business Media. Reach her at [mfarag@annexbusinessmedia.com](mailto:mfarag@annexbusinessmedia.com)*

# Supply Chain Disruption

*The pandemic's effect on the supply chain ushers in a new period of decision-making.*

BY REHANA BEGG



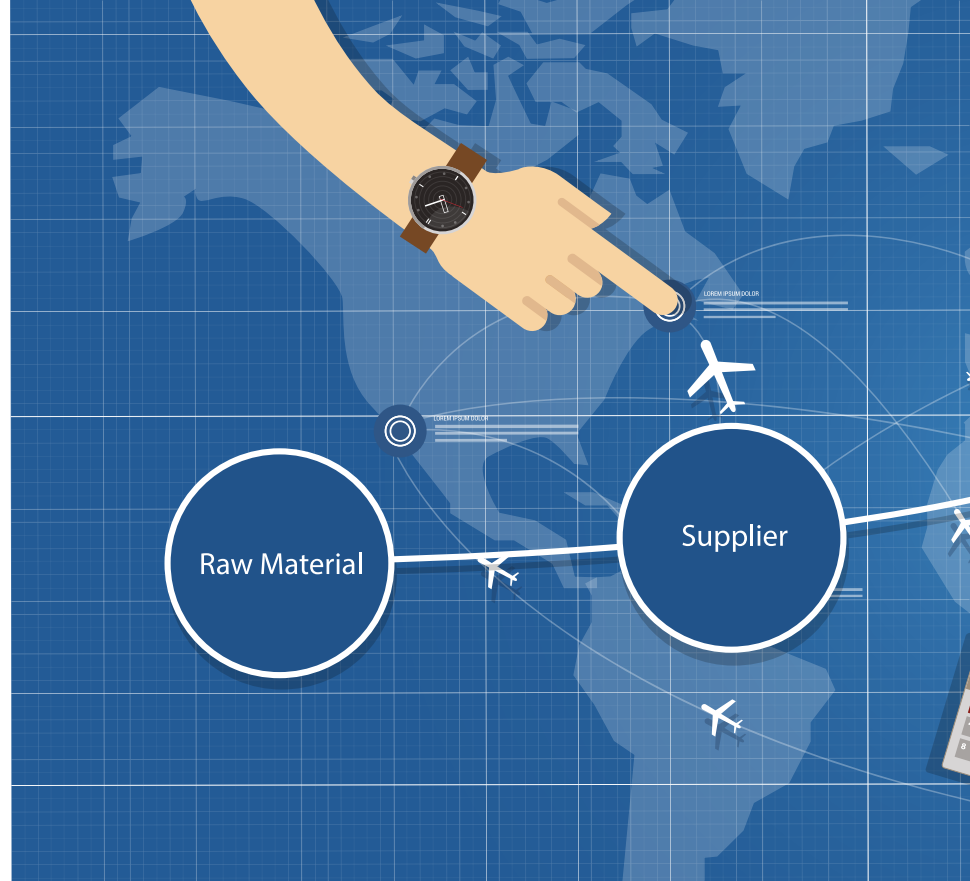
Darrin Mitchell could see the writing on the wall. The effects of COVID-19 were shoring up in the early parts of 2020 and was on course to becoming the No. 1 supply chain vulnerability that would threaten his business.

Mitchell's live-bottom trailer manufacturing business, Trout River Industries, was no different than the majority of manufacturing businesses expecting to be impacted by COVID-19. Like most CEOs, he balked as he watched borders lock down and witnessed social distancing and stay-at-home orders trigger the closure of non-essential businesses in hard-hit regions.

The normal course of business was already under pressure in February 2020. For one, rail lines were paralyzed by blockades erected in solidarity with Wet'suwet'en First Nation hereditary chiefs. That conflict

## 10.9%

Imports from the U.S. were down 10.9% to \$349.3 billion, also the lowest annual value since 2013.  
— STATCAN



stemmed from opposition to a natural gas pipeline in traditional territory in British Columbia. The impact of the protest rippled across the supply chain, affecting Mitchell's company in Prince Edward Island.

"The rail lines closed, and we were watching our products being shipped via rail to the west coast of Canada," said Mitchell. "Shipments were stopped in Saskatchewan."

While the uncertainty about the duration and deepening effects of the coronavirus made clear why the pandemic was considered the dominant explanation for low trade numbers, the industry was reeling from a battery of local and global events. Oil prices plummeted and spending had slowed. Manufacturers were blindsided by non-traditional shifts in demand; some industries (pharma, food and paper goods) experienced up-swings due to stockpiling. Who could forget the knock-on effects of the closure of GM's Ontario car assembly plant, the pipeline rupture in North Dakota, or how the biggest rail strike in a decade slowed down the movement of goods? Globally, the evolving trade and tariff situation with the U.S. (CUSMA), Brexit, geopolitical tensions with China, protectionism and political paralysis in the U.S. sent shockwaves through the supply chain.

Mitchell reacted with the only reasonable response: "Manage what you can manage." That meant he would emphasize a few key measures he had installed over the years, and focus on what he could do in the moment that would also serve the business over the long haul.

## Writing A Playbook

When Mitchell set up his trailer manufacturing business 22 years ago, he understood from the get-go that setting up an outfit in Coleman, a rural community in Prince County, P.E.I., would present unique logistical and supply chain challenges. His company would operate from the premise that "the likelihood of competing against companies that had hundreds of millions of dollars in capital investment would be slim," he said. "We had to design a business model for manufacturing from the ground up, because we couldn't compete against the companies in Ohio that were vertically and horizontally integrated."

Since the reality of the remote location was a logistical challenge, Mitchell purposefully bolstered his company's strengths by investing in a growth strategy that was hard to duplicate, such as the business brand, and licensing the company's technology so it could foster growth and develop a global market. His efforts paid off; aside from the main facility on P.E.I., Trout River builds trailers in Western Canada, Europe, the Middle East, Japan and Australia.

The landscape changed once lockdowns started testing existing competencies and routines in the supplier infrastructure. Mitchell knew it was time to course correct.

"The challenge was in the leadership model of the business," said Mitchell. "We had to be better at communication, we needed to have more meetings about min/max inventory systems, and more meetings about lead times. And yes, it was taxing."





**While the uncertainty about the duration and deepening effects of the coronavirus made clear why the pandemic was considered the dominant explanation for low trade numbers, the industry was reeling from a battery of local and global events.**

For one, suppliers and customers couldn't visit the manufacturing plant. Neither could Mitchell check in with them.

"The convenience of hopping on a plane to check on a supplier was no longer an option," he said.

The workaround was to build a Zoom studio for online meetings. "Now, I regularly meet with suppliers," he said. "I was in six different countries in one day, meeting with my customers, and to just say, 'Hi! What are your challenges?' I need to know these things if we're going to build a better relationship."

Mitchell acknowledged it was difficult to gauge the right action. Since paralysis was not an option, he developed his own playbook of move-forward tactics. The first tactic was to achieve end-to-end visibility so everyone in the organization could agree with min/max systems. Decisions, he said, should be grounded in good data and solid insights. In addition, Mitchell advised that everyone in the organization should know where the data comes from and what it means – from the leadership team to warehousing, and shipping/receiving, as well as your teams across the globe.

The second manoeuvre was to figure out how to use buffers to get out

of firefighting mode. Measures that could standardize the supply chain, such as using visual indicators, would be helpful. At a tactical level, Mitchell had always championed the 75/25 per cent rule, whereby 75 per cent of purchases are repetitive, must-have, critical-to-quality items, and 25 per cent is reserved for add-on items.

"I worked very hard over the years with my procurement team, strategizing how we can visually standardize as much as 75 per cent of the work, and how we can keep higher paid, more insightful people worrying about the 25 per cent," he said.

During the pandemic, Mitchell steered his team toward increasing inventory of critical components, as well as focusing on dual sourcing where needed. Moreover, he was able to track alternative suppliers' inventory levels, and effectively harness buffers (stock/time/capacity) as a company's strategic advantage.

"While some competitors were getting caught flat-footed, I actually took some of my buffer supply and started selling to my competition," said Mitchell.

The third tactic was to evaluate supply chain relationships. Asking a few critical questions will help develop relationships with suppliers based on trust and innovation, said Mitchell. Consider, for example: when was the last time a supplier introduced a new product to the factory? When was the last time a supplier did training in the company? When was the last time a supplier offered to bundle a freight? Or, when was the last time the supplier put a shipment on with another client and delivered it at your factory to save \$1,000 a month?

**\$376.2  
MILLION**

Exports to the U.S. fell 15.7% to \$376.2 billion in 2020, the lowest annual value since 2013.

– STATCAN

"If suppliers aren't already doing these things, you may not have cultivated the right relationship," said Mitchell. "If your supplier is merely driven on price, they ought not to be part of your supply chain over the long term."

Finally, Mitchell's fourth tactic was to speak to competitors. "If you think your systems are better than everybody else's and your secrets are your secrets, they're not," said Mitchell. "Are you really doing something that nobody can figure out? Competitors are a great source of information when you're stuck, as well as a potential partner."

### **Demand Shifts**

To be sure, the pandemic tested ingenuity, flexibility and resilience, but also highlighted supply chain vulnerabilities that left manufacturers second-guessing their game plans.

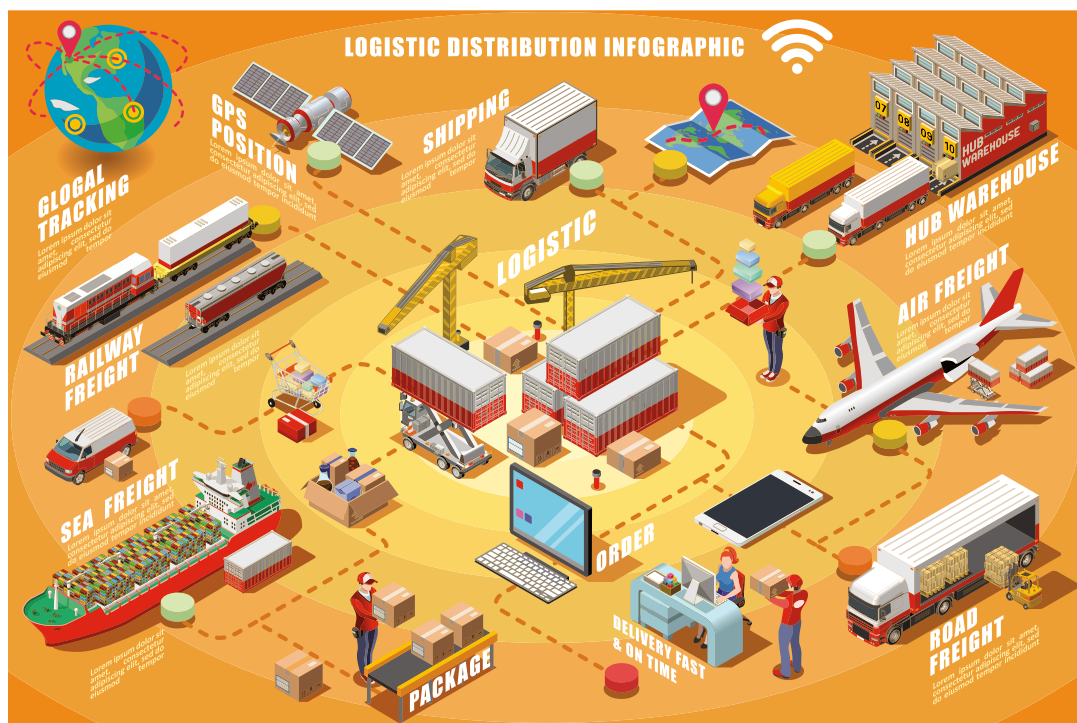
Recognizing the signs, analysts and risk advisory teams raised the flag, signalling the need for manufacturers to focus on optimizing business continuity plans, managing cash flow, strengthening communications with stakeholders and enabling technology.

"Clients were impacted by supply chains adjusting," said David Linton, Partner, BDO Consulting – National Manufacturing and Distribution Leader. "In our consulting group, we were spending a lot of time with clients, doing business continuity plans in case of closures of facilities."

Linton pointed out that patterns of demand shifted during the pandemic. Since manufacturing subsectors were hit differently, solutions needed to be customized. "Business continuity plans and strategy are unique to each business," said Linton, adding that risks in the supply chain could be addressed in many ways, including diversifying the supply base, looking at alternate sourcing options through near-shoring or onshoring, finding alternate materials that are good enough for substitute, or by designing a product in a different way.

On the supply side, inbound materials and packaging were impacted pretty early on, recalled Linton. On the other side, demand for some products dropped, but increased for others.

"We helped our clients pivot and looked after either the increase or the decrease on the sales side," said Linton. "Some of that was with consumer demand increasing or decreasing. Some was government-driven by the need for PPE [personal protective equipment]."



And some of it was the logistical challenges in the supply chain, resulting in either not being able to keep up with demand, or not being able to physically get the product to where it needed to be.”

That was the case for one of BDO’s clients, a manufacturer that produces equipment designed to rapidly recycle food waste. Owing to collective efforts to “flatten the curve” and save lives, the client’s target market – hospitality, restaurants, conference and event centres and cruise lines – took a nose-dive last year.

“Their demand dropped dramatically,” said Linton. “It was not easy to pivot and start making different equipment for a different sector.”

The manufacturer was dramatically affected in the early months of the pandemic. However, Linton noted that signs of optimism are showing with the gradual opening of customers’ businesses and overall signs of recovery.

### Installing Guardrails

What happens next depends on whether Canadians are willing to learn from their experience. “I think the pandemic has been a wake-up call,” said Linton. He adds that Canadian manufacturers will learn two valuable lessons from the pandemic.

The first lesson is that in order to survive and thrive in the global economy, businesses have to invest in technology. The pandemic has accelerated technology adoption in manufacturing.

“Up until this point, Canadian manufacturers have lagged behind

# 70%

About 70% of international trade today involves global value chains, as services, raw materials, parts and components cross borders.

—OECD

other countries in technology adoption,” said Linton, whose role at BDO includes helping clients improve their business through risk advisory management consulting and technology.

“Countries such as the U.S., Germany and other G7 countries have invested more in technology in manufacturing up until 2020/2021,” he said. “I wouldn’t necessarily regard it as a catch up, but we have certainly seen an acceleration in investment in technology.”

Canadian manufacturers rapidly adopted collaboration and productivity tools to allow remote/physically distanced working, such as Zoom, Teams, document sharing and scheduling tools. In addition, there has been a substantial amount of activity with Canadian manufacturers upgrading or rolling out e-commerce platforms for the first time. Analytics reporting and cash flow forecasting has become more prevalent.

“We’ve been doing a lot of work with modern and predictive analytics – machine learning (ML) or artificial intelligence (AI) – in an effort to look into the future of what the demand plan may be,” said Linton. “The 2021 federal budget allocated significant funding through various government bodies to increase the adoption of technology in manufacturing and other industries as well.”

The second lesson, said Linton, is that Canadian manufacturers will have learned that they need a business continuity plan, which includes minimizing disruptions in the supply chain as conditions change. Businesses

will continue to find ways to gain an advantage by building and adjusting supply chain sources or looking for ways to reduce costs.

“At the end of the day, consumers drive business, and consumers will still demand lower cost,” said Linton. “If you’re a manufacturer supplying the retail sector, one of your competitive advantages will be lower cost. That’s what will help drive sales.”

### Road to Resilience

Fourteen months into the pandemic, manufacturers are taking a fresh look at their supply networks and recognizing that a multitude of challenges remain. Would it be better to localize critical manufacturing and rebuild supply chains to avert scrambling for materials and rely less on risky countries? How will manufacturers make their supply chains more resilient without diminishing competitiveness? How can manufacturers avoid costly shut downs in the face of another disruption?

The definitive answer to these questions is: “It depends.” Given the interconnectedness of the global economy, the pandemic’s knock-on effects will have implications for all tiers of the supply chain. Both Linton and Mitchell agree that there is no one-size-fits-all solution. But there is room for optimism.

“Canadian manufacturers are resilient,” said Linton. “Many of them pivoted, found ways to keep their business going, and looked at the pandemic as an opportunity as well as a threat to their business.”

Coming out of the pandemic requires companies to look at vulnerabilities that could expose them. The details may also reveal opportunities. For Mitchell, leveraging the untapped potential in the supply chain has meant being creative at opening doors and uncovering different ways to do business. In October 2020, Mitchell made a life-altering move; he handed over the reins of his share of Trout River Industries to DLH Group. It was an offer he couldn’t refuse, he said.

“Ironically, the pandemic may help Canadian manufacturing in the long term,” said Linton. “Canadian manufacturing in five years will be stronger, better for the pandemic. That may sound counterintuitive, but that is the main learning I’ve had from this.”

**Rehana Beggs** is a Toronto-based freelance writer and editor. Reach her at [rehanabeggs@rogers.com](mailto:rehanabeggs@rogers.com).





Photo: AutomationDirect

## AUTOMATIONDIRECT WENGLOR PHOTOELECTRIC SENSORS

AutomationDirect added a new line of laser sensors: Wenglor dark and shiny object detection photoelectric sensors use blue light technology to detect objects other photoelectric sensors cannot see, or see objects that get detected multiple times erroneously.

They come in either 50x20x50 millimetres or 32x12x16 mm body sizes with an M12 or M8 quick-disconnect.

They can detect dark and shiny objects up to 400 mm away and are IO-Link V1.1 compatible.

Also added are four new models to the Wenglor performance line and five laser sensors to the discrete distance detection group.

[www.automationdirect.com](http://www.automationdirect.com)

## ECOCLEAN CONNECT



Photo: Ecoclean

Ecoclean released a cloud solution; Ecoclean connect. Defined data generated by the cleaning system's control unit is transmitted to the cloud in encrypted form via a secure connection. They are stored, evaluated, analyzed and linked in the IoT platform.

It features condition monitoring; display of system status based on online data; process visualization including pre-selections and step sequence display; operating data

history; overview of key performance indicators; message archive and statistics.

It includes the overview of all cleaning processes performed; individual cleaning process reports, including process parameters; management of cleaning programs with version history and reporting; library for all key documents related to the system.

Ecoclean connect features predictive maintenance; targeted maintenance forecast for pumps, heaters, butterfly valves and filters; maintenance recommendations for drawing up maintenance plans and automated maintenance instructions.

[ecoclean-group.net](http://ecoclean-group.net)

## IBM'S TWO NANOMETRE CHIP TECHNOLOGY

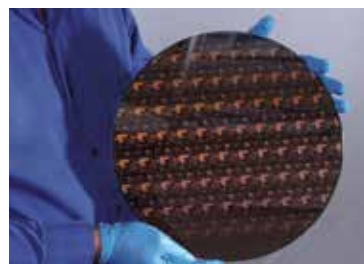


Photo: IBM

IBM's two nanometre chip technology for semiconductors is projected to achieve 45 per cent higher performance, or 75 per cent lower energy use, than most advanced seven nm node chips.

It uses IBM's nanosheet technology and can fit up to 50 billion transistors on the chip.

The benefits include quadrupling cell phone battery life, only requiring users to charge their devices every four days; slashing the carbon footprint of data centres, which

accounts for one per cent of global energy use; speeding up a laptop's functions, ranging from processing in applications, to assisting in language translation, to faster internet access; and contributing to faster object detection and reaction time in autonomous vehicles like self-driving cars.

[www.ibm.com](http://www.ibm.com)

## FANUC LR MATE ROBOT SERIES



Photo: Fanuc America

Fanuc America introduced the LR Mate 200iD/14L, the tenth model variation of the LR Mate series of tabletop industrial robots.

The ten models include clean room and wash proof versions, each with several wrist speeds and reaches.

The LR Mate 200iD robots offer work envelope for upright and invert mount installations. The series offers an ISO Class 4 clean room/food-grade variant for food handling and healthcare packaging applications.

LR Mate 200iD features slim arm and compact footprint that minimizes interference to peripheral devices in tight spaces; available in three variations: standard, short, and long arm; four to 14 kg wrist load capacity with up to six-axis articulation; integrated 24VDC power, signal and air for end-of-arm-tool connection; integrated thru-arm cable option for iRvision, force sensing, ethernet and auxiliary axes.

[www.fanucamerica.com](http://www.fanucamerica.com)

## VIBRATORY BELT CONVEYORS

Best Process Solutions released vibratory belt conveyors; durable bulk processing equipment conveyance systems for moving products.

They are customizable depending on the user's manufacturing needs. Available in several lengths, the units can be tandem-mounted in series for longer lengths as needed.

Design features include safety side panels/guards; two counter-rotating motors (230/460 volt, 3 phase, 60 cycle); UL controls available; can have up to four



Photo: Best Process Solutions

vibratory tables; and tubular trough construction.

Specialized conveyors are available for application in concrete molds with continuous fill line. The conveyor vibrates to minimize air bubbles while continuing to move.

[www.bpsvibes.com](http://www.bpsvibes.com)

## IDEC EIGHT-PORT UNMANAGED ETHERNET SWITCH



Photo: IDEC Corporation

IDEC Corporation has added the SX5E-HU085B eight-port unmanaged industrial ethernet switch to its product portfolio.

The QoS function in the SX5E unmanaged switch automatically guarantees priority for ethernet/IP packets. For instance, a programmable logic controller (PLC) communicating with other intelligent automation devices using ethernet/IP will receive precedence over other general traffic. QoS can be turned on/off with a single external DIP switch to give the user flexibility.

This switch operates at 10 and 100 megabit per second, with auto negotiation of speed and full or half duplex mode, and every port automatically detects and adjusts for straight-through or crossover cable connections. Store-and-forward technology ensures each communication frame is received into memory and CRC-checked for integrity before forwarding it to the destination. With a rugged metal housing that is IP30 rated, the switch can operate at temperatures ranging from -40 to 75°F, and it is designed with electrical noise resistance. The switch can be mounted on standard 35 millimetre DIN rail, or panel-mounted using an accessory direct mounting bracket. The switch is carries approvals for UL508, CE, RoHS, and FCC.

[ca.idec.com](http://ca.idec.com)



For more products, visit: [www.plant.ca/technology-centre](http://www.plant.ca/technology-centre)



## Calling Canadian Youth: Manufacturing Needs You

**Y**ou may have noticed a new campaign that's been launched recently to attract young Canadians into careers in advanced manufacturing. The campaign was sparked by NGen, Canada's Advanced Manufacturing Supercluster, as part of its efforts to address skills shortages across the sector and especially those related to the use of advanced digital and production technologies.

The challenge is real. It's of strategic importance not only for the future of manufacturing in Canada, but for the economic well being of each and every Canadian. A full 25 per cent of all manufacturing workers today will retire by 2030. Young people, aged 25 or below, account for only six per cent of the workforce. We've got a big and growing skills gap that has to be urgently addressed.

In order simply to maintain current production levels, let alone grow, Canadian manufacturers need to find new employees and they need to boost productivity big time; by a full 20 per cent, if current labour market trends persist. Labour shortages will drive a greater degree of automation and digitization across industry. Result? The technical and digital skills that will be required to operate advanced business and production systems will be in even shorter supply if manufacturers do not take the lead in providing guidance to students and educators at secondary or even primary levels.

That is what NGen's youth campaign is all about. What you will have seen on TV is only a small part of the overall media strategy to connect with students aged fifteen to eighteen across the country. There's a lot more happening on social media platforms that will attract students to the campaign's main website [CareersoftheFuture.ca](http://CareersoftheFuture.ca). That portal is the hub of the campaign. It provides kids with information about future career opportunities, the types of technologies they will work with, the impacts that advanced manufacturing is having in addressing some of the world's most pressing challenges, and some of the young people already working in advanced manufacturing across the country.

We've learned a lot from the market research that we conducted prior to



↓  
***In order simply to maintain current production levels, let alone grow, Canadian manufacturers need to find new employees and they need to boost productivity big time; by a full 20 per cent, if current labour market trends persist. Labour shortages will drive a greater degree of automation and digitization across industry.***

the launch of the campaign. When we first asked students and parents what they thought about manufacturing, the response was not a very positive one. Repetitive. Boring. Dirty. Dangerous. Unfortunately, the old stereotypes are very much alive in the general public and among key influencers like parents, teachers, and guidance counselors.

But then, we started talking about advanced manufacturing in terms of future trends, its dynamism and innovation, the types of advanced technologies that are being developed and used in Canada, employment opportunities, earning potential, and most of all its importance in addressing problems like the pandemic, climate change, and food security. Perceptions changed dramatically. Students got interested. Parents got excited!

At the same time, we discovered that manufacturing suffers from more than an image problem. Once student interest is tweaked, there are still a lot of unanswered questions for students, parents, and teachers alike. What sort of career opportunities are there out there? How are they likely to change over the next five years? What competencies will be required to fill jobs in manufacturing in five years' time, when students are ready to enter the job market? What college or university courses will lead to jobs in manufacturing? And, what courses and marks in secondary school do students need to pursue in order to launch them on a career path in manufacturing in the first place?

CareersoftheFuture.ca aims to provide kids and parents more information that is intended to guide their next steps if they are interested in pursuing work in manufacturing. It also identifies extracurricular programs and activities in which young people can get involved – programs like First Robotics and the Virtual Robotics Training Academy that gives students easy access to robot simulations.

NGen will be measuring the success of the campaign in sparking student interest, changing perceptions of manufacturing, and guiding kids into academic programs that will set them up nicely for a future career in manufacturing. An important metric will be the number of female and indigenous students as well as students of colour that we attract to the website and into new career paths.

The campaign will run for the long term. It has to, in order to make a difference. And, we will be looking to industry, manufacturers and industry associations, to help us add content in the form of case studies, role models, or other recruitment information to our website and to support the campaign by providing students with the work-integrated learning and job opportunities that the campaign promises them in the future. ■

Check out [www.CareersoftheFuture.ca](http://www.CareersoftheFuture.ca). And, for more information about how to get involved, contact [info@ngen.ca](mailto:info@ngen.ca).





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