

COVID-19: WHAT'S THE IMPACT?

Pandemic calls for critical look at digital transformation, supply chain and robotics

BY KRISTINA URQUHART

The COVID-19 pandemic has changed the manufacturing landscape in North America.

Many companies have retrofitted to produce critical medical supplies and devices (p. 12), and supply chain issues and border controls plagued the Canadian government as they tried to bring in coveted N95 masks from the United States and abroad. Meanwhile, cases of the novel coronavirus have ticked upward day by day across Canada and the United States.

Some manufacturers – like those in the automotive industry – have seen demand for their products dwindle, while others that already produce items like hand sanitizer, disinfectant wipes, bath tissue and paper towel have ramped up production to churn out product as fast as possible to meet overwhelming demand.

According to public health officials, this coronavirus, left unchecked, could

strike between a third and three-quarters of Canadians – a massive portion of the total workforce. Manufacturers are juggling employees working on staggered shifts to encourage distancing, employees working remotely and even some have seen employees off sick or recovering from the virus.

The immediate economic ramifications of COVID-19 are being felt across the industry through layoffs, reductions in orders and stringent regulations about what companies are allowed to operate, grinding business to a halt.

While the long-term impact remains to be seen, this is the time for manufacturing companies to take stock of their operations, from production through the supply chain, and think critically about how they may be better prepared in the future.

“It’s kind of like a new world order,” Craig Resnick, vice-president, consulting at ARC Advisory Group, says in an interview. “The only certainty is uncertainty.”

Dealing with demand

Over the last few months, Resnick’s client list of manufacturers and automation suppliers have been contacting him for advice on scaling their plans for emergencies, whether they be pandemics, natural disasters or tariff wars.

“One of the things they want to take this time to do is to say, how can we be more resistant in the future?” he says. “How do we do a better job operating remotely, because the workforce is inaccessible either because of a weather disaster or because of a pandemic?”

One thing that makes the current situation differ from the 2008-2009 recession, Resnick says, is that demand continues for many products, especially in food and beverage and pharmaceuticals.

Companies are now asking how they can be more prepared for home delivery to keep business going – paramount to staying competitive when Amazon publicly announced it would hire 100,000 warehouse and delivery workers to offset the spike in e-commerce demand.

A new concern is how to be flexible and agile with the packaging of products so they can go straight-to-consumer, because there isn’t time for products to be tied up in the logistics chain.

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\$18B

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distribution centre model doesn’t really work for sending things to consumers,” Resnick says. “How can factories be asked to have deliveries going right to a consumer? [It] completely changes the way they have to package products because they’re not doing a bulk package to go to a distribution centre.”

Panic buying at the onset of the crisis challenged manufacturers and distributors in North America, with consumers flocking to grocery stores in droves to stock up on products. Resnick says consumer behaviour is likely to change long-term as well. Cleaning product manufacturers may need to increase their number of production lines if consumers start using more of these products even after the virus subsides.

“Companies in the pulp and paper industry are trying to make their operations more flexible to handle quick demand surges,” says Resnick.

Tissue manufacturers have been rushing to fill store shelves because shoppers have been hoarding toilet paper, facial tissue and paper towel – but at some point, demand will drop off as people work through their back stock. And packaging manufacturers, while having seen steady growth over the last few years with the rise of e-commerce, will see containerboard demand increase as people shop from their homes.

While many of the automotive plants in Europe are temporarily closed, Resnick says vehicle manufacturers in North America expect that while demand is low right now, there will be a “boomerang effect” – should the outbreak clear up by mid-summer, demand will spike for cars not purchased during the second quarter.

Value chain visibility required

Long-term, digital transformation is what will offer manufacturers real-time visibility into the supply chain and give them the ability to be more flexible in times of crisis, Resnick says.

When all of China was hit with a mandatory quarantine following the initial COVID-19 outbreak in February, factory production ceased, workers were unavailable and transport of goods backed up.

Avoiding a similar bottleneck in the supply chain will be crucial for North American manufacturers in the future, Resnick says, whether they’re responding to a pandemic, a national disaster or an economic embargo.

Diversifying the supply chain across geographic reasons is the only way to guarantee that if operations are compromised in one region, they can continue to operate in another. “From a supply chain perspective, some of this actually had already been taking place over the last year because of trade and tariffs,” says Resnick.

U.S. companies in particular were looking at other alternatives for resourcing and manufacturing in Southeast Asia and Mexico to avoid high costs from the tariff war with China. “People were kind of figuring that they needed to be a little bit more flexible in supply chain and I think [the pandemic] really exposes this now – the long-term health of these companies.”

Digitalization key to future-proofing

In March, as the virus hit the North American continent, many smaller manufacturers and suppliers were caught off guard with no plan in place for their supply chain, their production or their workforce.

These companies will need to take a hard look at their operations coming out of this crisis, Resnick says, because they must be able to conduct business as seamlessly as possible going forward – which not only means becoming digitized, but becoming “digitalized.”

Digitalization means gaining insight and value from data collected by digitization of analog processes, and using it to improve business processes. Some digitalization tools that provide visibility include digital twins, augmented reality and virtual reality.

“It’s going to be mandatory that [Tier 1 manufacturers] will only do business with companies that have the ability to make fast, real-time decisions, like on whether they need to ramp up the supply chain,” he says.

“These companies are going to say, I can’t take a chance on dealing with somebody who’s doing business if I can’t be connected in real time. It’s going to put more pressure on the smaller suppliers to make sure that they can connect to their customers.”

Robot market could see upswing

One of the positive effects that may come out of the COVID-19 crisis is that manufacturers could become increasingly interested in how robotics and automation can help their business, both from a production and workforce augmentation standpoint, Resnick says.

With collaborative robots – which make up the fastest-growing robotics market – he says, “your robot becomes kind of like your avatar. They give the ability to actually control some of the processes that you’re responsible for in the plant, even if you’re not physically there.”

More robots and automation will be required to respond to those kinds of fluctuations – but companies will also need more human talent to manage them.

Post-crisis, manufacturers will need to ensure they have the flexibility to deal with portions of their workforce being out of the plant in case of emergency, and to be able to accommodate SKU changes on the go as production ramps up or down to meet demand.

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An uncertain outlook

Analysts had started this year thinking that the economic climate was favourable. In a Mar. 5 presentation to media, Florian Güldner, an analyst at ARC Advisory Group, said that in the Americas, automotive-focused markets were in the middle of a downturn after plant closures in 2019, with the low point expected to be reached in Q2 or Q3 2020. The electronics and semiconductor manufacturing markets were flattening but stable, and machinery markets were contracting but expected to stabilize in mid-2020.

That was before the world changed. While the economic effects of COVID-19 on the North American manufacturing sector remain to be seen, according to ARC, previous global pandemics have caused revenue losses of up to \$18 billion in automation markets alone.

On Mar. 16, The Associated Press reported that factory output in China had declined by 13.5 per cent – a record dip – in February after its mandatory quarantine period.

“Companies that will survive long term are the companies who have the best tools to be flexible, agile, nimble, and can do the best job of quickly changing runs, controlling their plants, monitoring their plants, adjusting their supply chains, and being able to deploy their workforce from really any location,” says Resnick.

“There’s no one on the planet who knows how this is exactly going to turn out. But they recognize that when this thing does subside, the old normal cannot be the new normal.” | MA