

Innovation Economy Council releases white paper — *Factory Forward: How Advanced Manufacturing is Retooling Ontario's Industrial Heartland*

TORONTO, July 7, 2020 – Today, the Innovation Economy Council (IEC) released its second white paper: [*Factory Forward: How Advanced Manufacturing is Retooling Ontario's Industrial Heartland*](#).

The report examines some of the successes among advanced technology manufacturing in Ontario and offers potential approaches to drive further innovation, collaboration, investment and commercialization. It was written by Barrie McKenna, former Globe and Mail columnist, with data and analytics by Nigel Biggar.

Despite the nearly 250,000 manufacturing jobs lost following the 2008 recession, Canada's GDP in manufacturing continues to rise. Ontario is a manufacturing powerhouse — one in 10 of the province's jobs are in manufacturing. Today, a clutch of advanced manufacturing sectors are contributing an outsized share of factory job creation and economic growth in Canada. These sectors — identified as advanced because they invest more in R&D and employ more high-skilled workers than other manufacturers — accounted for half of the roughly 45,000 factory jobs created in Ontario since 2010, according to the IEC.

Advanced manufacturing is not exclusively about new technology. In many cases, advanced manufacturing has overtaken and transformed existing industries — particularly as technology becomes infused into almost every product or service Canadians consume. For example, Canada has all the tools to be a major player in the technology side of the automotive business — which is increasingly important as cars become more technologically complex, AI-powered and autonomous machines.

As Canada's industrial heartland, Ontario has plenty of pent-up manufacturing capacity waiting to roar to life: both our established manufacturers who are looking for new products to build at scale, and our advanced manufacturers who can out-innovate and out-think global competitors on complex and highly technical products. The white paper explores how we can bring these two streams together to build new manufacturing power.

Advanced manufacturing by the numbers

- More than one in 10 of Ontario's jobs are in manufacturing.
- Advanced manufacturing accounted for half of the more than 45,000 factory jobs created in Ontario since 2010.
- Over the past decade employment has grown 98 per cent in agricultural chemicals, 45 per cent in aerospace, 42 per cent in industrial machinery, 22 per cent in auto parts, 17 per cent in electronic components, 17 per cent in medical equipment, and 14 per cent in motor vehicles. This compares to an average of 7 per cent job growth across all manufacturing industries.
- The auto industry remains an economic force, generating \$20-billion a year in GDP, directly employing 125,000 people and driving billions of dollars in exports.
- The Greater Toronto area now has the highest concentration of AI startups in the world. And nearly 80,000 people in the region work for 1,750 knowledge-based businesses, including multinationals such as Microsoft, Oracle, SAP, IBM and EMC-Dell.

– *According to IEC modeling.*

Quotes (from the white paper)

“We’ve entered a new era in manufacturing,” argues Linda Hasenfratz, president and chief executive of Linamar. “It feels like manufacturing is turning into a technology business, more than anything else.”

“We are competing globally for talent, so we have to make sure that Ontario is top of peoples’ minds,” says Grant Courville, vice-president of products and strategy at BlackBerry QNX. “The talent will gravitate to where interesting and innovative things are happening — whether it’s in cars, trucks, transit or rail.”

“All the textiles industry that used to be here is gone,” says Hannah Fung, marketing strategist at Myant. “We want to bring a culture that’s been lost back to Toronto and Ontario. No one thinks we can make things any more, but it’s not true. Governments need to believe that that advanced manufacturing can be done here.”

“We have started to bring more work back to Canada and encourage these Canadian companies to develop their capabilities and buy the right equipment,” says Hamid Arabzadeh, chief executive of Ranovus. “But it doesn’t make sense without government help. We have to buy the equipment, set it up, show people how it works. There is a lot of lifting from our side.”

“We want to invest in our ecosystem because there is so much benefit for other companies, for taxpayers and for Canadians at large,” says Armen Bakirtzian, co-founder and chief executive of Intellijoint Surgical. “It is not yet a destination for medical technology companies, but that’s what we want to make it — a place where companies can scale up and become global powerhouses.”

“We need to find a way in Canada to create sticky companies,” says **Michael May, president and CEO of CCRM**. “We’ve done a great job of creating intellectual property and science. But IP is diffusible. It will go to where the money is. If we become masters of manufacturing, then the companies we create will stay in Canada.”

“The world market is very large and it’s exciting to have penetrated it,” says Domenic Di Mondo, a chemist and vice-president of technology and business development at Green Mantra. “But you want to see adoption in your own backyard as well. It’s a patriotic thing.”

Next steps

Innovation leaders need to shift the current narrative about manufacturing to align with the reality that it is stronger than ever. We can do that by raising the profile of our new potential champions and by celebrating our established firms that are leading the way in technology utilization.

We also need to ensure that we are developing the ingredients to nurture today’s manufacturing rather than yesterday’s. As a greater share of manufacturing jobs in Canada shift to design and prototyping that means growing the pool of post-secondary educated talent and providing incentives for companies to invest in R&D&I (Innovation).

Finally, shifting geopolitics and COVID-19 are driving supply chains to be more local. Canadian firms need to increase their collaboration with each other to increase their supply resiliency and to leverage complementary competencies to further cement our position as a global manufacturing leader for decades to come.

About the IEC

The Innovation Economy Council is a coalition of tech-sector leaders dedicated to shaping Canada's industrial innovation policy. Led by [MaRS](#), [Ontario Centres of Excellence](#), [Communitech](#), [DMZ](#), [Invest Ottawa](#), [CCRM](#), [Spark Centre](#), [CENGN](#) and [NGen](#), the IEC works with active members of Canada's innovation ecosystem to identify areas for in-depth analysis and offer timely insights to increase Canadian productivity and growth.

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