NGen Next Generation Manufacturing Canada

Industry-Led Collaboration

Ground-Breaking Innovation

Workforce Development

Shared Insight and Resources

Provincial Report: Québec, 2021

NGen Update:
Québec

NGen's projects and initiatives are making a real life impact across Canada.

Québec companies are building world-leading advanced manufacturing capabilities that are helping Canadians battle the COVID-19 pandemic, improving environmental sustainability, and developing new digital and high-performance technology applications boosting the competitiveness and growth potential of Canadian manufacturers from coast to coast.

Next Generation Manufacturing Canada (NGen) is the industry-led network committed to enhancing Canada's advanced manufacturing capabilities for the benefit of Canadians. NGen leads Canada's Advanced Manufacturing Supercluster. It works to combine research, technology, manufacturing, and workforce strengths across the country to accelerate the development, adoption, scale-up, and commercialization of innovative solutions that enhance the competitiveness and growth of Canada's manufacturing sector, add value and new jobs to the Canadian economy, and tackle some of society's most pressing challenges like health care, food and supply chain security, and environmental sustainability.

NGen works to identify, promote, connect, and strengthen collaboration among experts, companies, and organizations that contribute to advanced manufacturing in Canada. It funds and supports transformative, industry-led, collaborative innovation projects with the potential to deliver significant economic and social benefits for Canadians. NGen also leads initiatives that improve access for smaller companies to education, training, and testing facilities across Canada and that enhance the skills and management capabilities of Canada's advanced manufacturing workforce.

Québec
Highlights

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NGen Membership.

404 Québec companies, experts, and orga-
nizations have joined NGen's advanced ma-
nufacturing network.

Project Participation.

32 Québec companies and research centres
are partnering in 18 world-leading advanced
manufacturing projects funded by NGen.

NGen Investments.

NGen has approved investments of $55.5
million in projects involving Québec part-
ners, with total innovation spending estima-
ted at $176.3 million.

Economic Impact.

Projects involving Québec partners will crea-
te more than 6,000 jobs over the next five
years.

Securing supply chains.

Protecting the environment.

Improving healthcare.

Supporting technology adoption.

Membership.

In Québec, 404 manufacturers, technology providers, academic institutions, research and innovation centres, business networks, and public sector partners are members of NGen's advanced manufacturing network. In total, they represent 10% of NGen's 4,030 members from across Canada. NGen membership is open to any expert, company, or organization actively contributing to building advanced manufacturing capabilities in Canada. Members have access to NGen project funding, business and support services, and to a network that allows them to identify potential partners, business opportunities, and industry best practices.

Advanced Manufacturing Projects.

NGen co-invests with industry in collaborative projects that have the potential to transform manufacturing processes, lead to significant commercial opportunities, and contribute to Canada's advanced manufacturing ecosystem through the transfer of knowledge and intellectual property.

NGen-funded projects combine research, technology, and manufacturing capabilities in the development and scale-up of novel manufacturing processes. Collaboration provides project partners with innovation, scale-up, and commercial opportunities they would not be able to achieve on their own. Licensing agreements allow IP arising in projects to be shared with NGen members and applied across manufacturing sectors.

To date, NGen has approved investments of $203.3 million in 129 projects across Canada leveraging an estimated $497.2 million to total innovation spending. NGen's project portfolio involves 294 industry and 56 academic and research partners from across the country – 264 (90%) of the industry partners participating in NGen-funded projects are SMEs. One quarter of NGen-funded projects involve interprovincial collaboration among project partners.

NGen has approved investments of $55.5 million in 18 projects involving 32 industry and research partners based in Québec, which will lead to an estimated $176.3 million in total innovation spending. Eight of those projects involve collaboration with partners in other provinces across Canada. All but two Québec industry partners

are SMEs. To date, projects involving prairie partners have generated around $300 million in sales. As they progress and the results are commercialized, they are expected to create more than 6,000 jobs over the next five years.

Québec Companies Leading the Way.

Québec companies and researchers have led in the fight against COVID-19. For example:

- Exacad fabrication de moules in Boisbriand developed a rapid plastic injection molding process for COVID-19 diagnostic and test kits.

- Armfoam in Longueuil is partnering with Roswell DHT in Calgary to automate the production of N95 respirators.

Québec companies are also developing unique solutions for additive manufacturing, new materials, and factory automation.

- Deepsight in Montreal and Avior Integrated Products in Laval are developing module for digitizing work instructions for augmented reality

- Researchers at McGill and Laval Universities are working with Aspire Food Group in Toronto, TELUS in Vancouver and Darwin AI in Waterloo, ON along with other researchers at Western University, and the Universities of Guelph, Toronto, and Waterloo to develop advanced manufacturing processes for producing high-quality proteins at a new facility in London, ON.

- Saputo Dairy Products based in St.-Laurent is partnering with Panevo Services in Vancouver and Accuenergy in Toronto to deploy a digital system for equipment optimization in their food processing facilities.

- MDA in Ste.-Anne-de-Bellevue is working with Promark Electronics in Pointe-Claire and AV&R in Montreal to develop new systems for highly adaptive manufacturing environments.

- Pega Medical in Laval and Spinologics in Montreal are partnering with OIC and Precision ADM in Winnipeg, and Conceptualiz in Halifax to develop and validate an automated software system for improving the additive manufacturability of patient-specific medical devices.

Québec Companies Leading the Way
Continued...

In addition to advanced manufacturing projects, NGen has supported the development and growth of the Canadian Photonics Industry Consortium at Laval University. NGen support has allowed the consortium to connect with other advanced manufacturing clusters across Canada and develop new performance enhancement and business opportunities for its members.

NGen has partnered with three Québec education partners in its advanced manufacturing workforce and management development initiatives. L'École de technologie supérieure, HEC Montreal, and the University of Sherbrooke all contribute courses to NGen's Advanced Manufacturing Productivity Upskilling Program (AMPUP). NGen actively supports the initiatives led by the Innovation 4.0 Network at ETS.

NGen also partners with other industry and innovation networks based in Québec, including CRIQ, Investissement Québec, Aéro Montréal, and ScaleAI.

More to come.

More projects have yet to be announced! Québec companies and research centres will be working to develop and produce new materials to improve environmental sustainability, new systems to enhance energy storage and develop the Electric Vehicle value chain, new ways of processing metals and other materials, as well as innovative automation and robotics solutions that will be applied in a variety of manufacturing applications.

Learn more about NGen and keep an eye out for new project announcements at www.ngen.ca.

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NGen's industry-led approach enables private sector leaders to pursue game changing, market-driven innovations.