

Industry-Led
Collaboration

Ground-Breaking
Innovation

Workforce
Development

Shared Insight
and Resources

NGen Update: British Columbia



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

BC 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 robotics 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 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.

British Columbia Highlights



NGen Membership.

Since inception, over 365 companies, experts, and organizations from British Columbia have signed up to join NGen's growing advanced manufacturing Membership network.



Project Participation.

NGen has built relationships and engaged 26 BC companies and research centres that are partnering in 20 world-leading advanced manufacturing projects.



NGen Investments.

NGen has approved investments of \$42.6 million in projects involving BC partners, with total innovation spending estimated at \$134.6 million.



Economic Impact.

Through participation in NGen projects, consortia involving partners from British Columbia will create more than 9,000 jobs over the next five years.

Securing
supply chains.

Protecting the
environment.

Improving
healthcare.

Supporting
technology
adoption.

Membership.

In British Columbia, 365 manufacturers, technology providers, academic institutions, research and innovation centres, business networks, and public sector partners are members of NGen's advanced manufacturing network. They represent 9% 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.

BC Companies Leading the Way.

NGen has approved investments of \$42.6 million in 20 projects involving 26 industry and research partners based in BC, which will lead to an estimated \$134.6 million

in total innovation spending. Fourteen of those projects involve collaboration with partners in other provinces across Canada. All but one BC project partners are SMEs. To date, projects with BC partners have generated around \$500 million in sales. As they progress and the results are commercialized, they are expected to create more than 9,000 jobs over the next five years.

BC companies have led in the fight against COVID-19. Here are some highlights:

- Starfish Medical in Victoria worked with suppliers and manufacturers across Canada to redesign, manufacture, and deliver medical grade ventilators to front-line workers in a hospital ICU units.
- Response Biomedical in Vancouver tested and scaled up production of COVID-19 test kits.
- A&K Robotics worked with Sanctuary Cognitive Systems in Vancouver to develop and manufacture disinfecting robots.
- Advanced Intelligent Systems in Burnaby also developed and manufactured robots to disinfect workplaces.
- Novo Textiles in Coquitlam and Harbour Technologies in Windsor, ON

are automating the fabrication of N95 respirators.

BC companies are also developing unique automation and robotics solutions for manufacturers:

- Panevo Services in Vancouver worked with Accuenergy in Toronto to develop a digital system for monitoring and optimizing overall equipment effectiveness in the food processing sector.
- Vancouver-based Sanctuary Cognitive Systems worked with surgical staff at the Vancouver Hospital and Forcen in Toronto to design, build, and test a proof-of-concept robotic end effector that can match human-like dexterous manipulation.
- TELUS in Vancouver is working with Aspire Food Group in Toronto, and Darwin AI in Waterloo, ON along with researchers at Laval University, McGill, 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.

BC Companies Leading the Way Continued...

In addition to advanced manufacturing projects, NGen partners with three education and training partners in its workforce development initiatives. UBC's Sauder School of Business, the Northwest Skills Initiative, and the BC Alliance for Manufacturing all contribute courses to NGen's Advanced Manufacturing Productivity Upskilling Program (AMPUP).

NGen supports UBC researchers in partnership with researchers at the University of Toronto, National Research Council, and Natural Resources Canada's CANMET centre in the development and scale-up of AI-enabled Materials Acceleration

Platforms that are playing a key role in the research, characterization, and testing of advanced materials for sustainable manufacturing.

NGen also partners with other industry and innovation networks based in BC, including the Manufacturing Safety Alliance of BC, Foresight Cleantech (BC's cleantech accelerator centre), and the Digital Technology Supercluster.

More to come.

More projects have yet to be announced! BC companies and research centres will be

working to develop and produce new materials to improve environmental sustainability, new systems to enhance energy management and reduce greenhouse gas emissions, and new 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.