

Sparking a New Economy

Canada's Advanced Manufacturing Supercluster

NGen Next Generation
Manufacturing Canada

SUPER
CLUSTERS



Canada's Advanced Manufacturing Supercluster

Canada's Advanced Manufacturing Supercluster Strategy will leverage Canada's innovation ecosystem to accelerate the adoption and scale-up of advanced technologies in Canadian manufacturing.

Led by Next Generation Manufacturing Canada (NGen Canada) – an industry-led network dedicated to building next generation manufacturing capabilities in Canada.

Leveraging over \$260 million in federal and provincial funding and more than \$800 million in industry investments in:

- **Ground-breaking Process Transformation:** game changing technologies applied in Canadian manufacturing.
- **High Potential Technology Development:** scaling Canadian technologies for next generation manufacturing in Canada.
- **Ecosystem Development:** creating a network of organizations, support services, tools, and testbeds that accelerate technology adoption in manufacturing and generate new customers and scale-up opportunities for technology firms.

Canada's Advanced Manufacturing Ecosystem

The Opportunity

Canada is an advanced manufacturing economy:

- A highly diversified manufacturing sector encompassing industries from resource processing to high-value automotive, aerospace, equipment, and technology
- Four globally ranked technology start-up ecosystems
- World-leading research in advanced technology applications in manufacturing
- A high quality workforce and advanced skills and education sector
- A high concentration of leading-edge technology providers.
- Strategic market access, global supply chains, preferential tax and tariff regime for manufacturers.

The Business of Manufacturing is Rapidly Changing

- More demanding customers looking for customized products and services
- More demanding governments and stakeholders
- Rising business costs
- Intense competition and little pricing leverage
- High levels of political and market risk
- Mounting social challenges – environment, demography, food, health, security
- Rapidly developing technologies that are:
 - *Blurring the lines between manufacturing, services, and technology businesses*
 - *Disrupting existing products and processes*
 - *Driving innovation and business opportunities with respect to new and improved products, processes, and services*
 - *Enabling new service-based business models*

Advanced Technologies are Revolutionizing Manufacturing

- **Advanced digital, production, and materials technologies are enabling manufacturers to address critical business challenges:**
 - **Turning all products and processes into data platforms;**
 - **Allowing for virtual design, simulation, and testing of products, processes, and production systems;**
 - **Enabling rapid development, prototyping, and production of new and enhanced products, processes, and services;**
 - **Increasing operating efficiencies and speeding up development, manufacturing, and delivery times;**
 - **Increasing flexibility, agility, and customization;**
 - **Improving quality, precision, reliability, and maintenance;**
 - **Improving health, safety, and environmental sustainability;**
 - **Connecting products, processes, customers, and suppliers; and,**
 - **Creating new business models and revenue streams based on data driven services.**
- **Failure to adopt advanced technologies threatens the competitiveness and long-term survival of manufacturers.**

Next Generation Manufacturing Canada

Priorities

- **Connect and Strengthen Collaboration** among manufacturers, technology providers, educational institutions, government organizations, and business networks in order to accelerate new technology applications in manufacturing and the manufacturing of new technologies in Canada.
- **Support transformative industry-led projects** that create new technology capabilities and new technology applications in manufacturing and make a contribution to skills development, tools, testbeds, and collaborative effort across the advanced manufacturing ecosystem.
- **De-risk adoption and scale-up** for smaller manufacturing and technology companies.
- **Build awareness** about the importance of advanced manufacturing for Canada's economic prosperity and about the world-leading technologies, skills, and manufacturing capabilities that Canada has to offer.
- **Align policies and programs** to industry priorities.

Project Priorities

Technology Development	Technology Adoption	Technology Diffusion	Project Participation	Ecosystem Development
<ul style="list-style-type: none"> • AI/Machine Learning • Robotics • Vision Systems • Additive Manufacturing • Advanced Materials • Smart Textiles • Batteries & Fuel Cells 	<ul style="list-style-type: none"> • Industry 4.0 Digital processes • Rapid Scale Up 	<ul style="list-style-type: none"> • Smart Vision Systems • Smart Materials • IOT devices • Additive Manufacturing • Solar Technology • Automated Vehicles • Sensors & Micro-electronics 	<ul style="list-style-type: none"> • Industry 4.0 • IOT devices • AI • Software • Data analytics • Precision machining • Sensors & Micro-electronics • Cybersecurity 	<ul style="list-style-type: none"> • Training • Networking & Events • Applied R&D • Engineering • Technology Infrastructure • Financing

Get Engaged

Supercluster participation is open to any company or organization dedicated to advanced manufacturing and registered with NGen.

Propose and invest in a collaborative project

Co-develop advanced technologies for manufacturing

Partner as part of the technology and knowledge supply chain in a manufacturing-led project

Partner as a manufacturer in a technology-led project

Invest in and benefit from the development of Canada's advanced manufacturing ecosystem and skilled workforce

Leverage Supercluster participation to access new customers, markets, and supply chains.



Jayson.Myers@NGen.ca