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OVERVIEW

Canada's advanced manufacturing Supercluster is led by Next Generation Manufacturing Canada (NGen), an industry-focused, not-for-profit corporation dedicated to building world-leading advanced manufacturing capabilities in Canada.

NGen aims to connect and strengthen collaboration among manufacturers and technology companies to accelerate the development, adoption, and scale-up of transformative capabilities in Canadian manufacturing.

The objective is to strengthen the competitiveness of Canada's manufacturing sector, drive more innovation and investment in advanced manufacturing technologies in Canada, generate new commercial opportunities for Canadian companies in global markets, grow more large-scale world-leading Canadian enterprises, and develop a modern and inclusive workforce with the skills to excel in advanced manufacturing.

WHAT DOES THE SUPERCLUSTER FUND?

NGen will invest \$200 million of Supercluster funding in collaborative industry-led projects before the end of March 2023.

Supercluster projects must be:

Transformative, involving the development of advanced manufacturing capabilities with the potential to confer a significant global competitive advantage to Canadian industry;

Applied, focused on solutions, supporting later stage technology and manufacturing readiness with potential to generate significant long-term commercial and economic benefits, including jobs maintained and created;

Enduring, leaving a legacy in skills development, tools, testbeds, intellectual property, and/or business knowledge for Canada's advanced manufacturing ecosystem beyond the partners and timeline of the project.

Collaborative, developing industry relationships, building trust and sharing in knowledge, risk, investment and the resulting benefits. Projects must include at least one small and medium-sized enterprise (SME) and are encouraged to consider the inclusion of academic and research organizations.

WHO IS ELIGIBLE TO APPLY?

- Any member of NGen (Canada's advanced manufacturing Supercluster) may submit an application for project funding or apply to be considered as a partner or co-investor in Supercluster projects.
- Recipients organizations must be a Small or Medium Enterprise with less than 500 employees globally.
- Recipients of Supercluster funding must be incorporated in Canada.
- Funding recipients must be either for-profit organizations, or not-for-profit organizations that facilitate and fund research and development and whose funding is received primarily from private-sector organizations.
- Other publicly funded not-for-profit organizations, post-secondary institutions, federal Crown corporations, and government departments or agencies are not eligible to receive Supercluster funding directly, although they may bring their own contributions to projects or be sub-contracted by funded recipients to carry out project activities.
- International organizations (offshore companies and research organizations without an incorporated presence in Canada) may also participate in Supercluster projects, but any project activity undertaken by these organizations will not be eligible for Supercluster funding.

BASIC PROJECT REQUIREMENTS

- All projects must demonstrate the development or application of an advanced manufacturing Technology or Process.
- Projects must demonstrate that they are Collaborative, Transformative, Enduring and Applied.
- Projects need to include manufacturing and technology expertise.
- All Pilot Projects need to demonstrate meaningful collaboration with a minimum of two SME partners. All partner companies should make meaningful contributions to the project, demonstrating collaborative engagement, shared risks and potential for shared rewards.
- Projects must have the potential to deliver significant commercial benefits and jobs both within the consortium and beyond.
- The total amount of the project should be between \$100K and \$500K. NGen will reimburse up to 50% of total eligible project expenses incurred by industry partners. NGen maximum contribution will be up to \$250K of funding.
- Project participants must have robust project management processes in place. Project work packages, milestones, timelines, and estimated costs should be well-defined.

BASIC PROJECT REQUIREMENTS

- Capital & equipment spending, cannot exceed 30% of total eligible project costs.
- No single partner may receive more than 70% of NGen funding.
- Project partners cannot also be a sub-contractor for labour services or a consultant within the project.
- Projects will be required to pay NGen a one-time, non-refundable project administration fee equal to 2.5% of the total cost of the project at the time of contracting, before the project start. This fee can be paid by one partner or divided between partners.

Project activities that are out of scope and will not be funded include:

- Those related to experimental or theoretical work without any direct commercial application or use
- Projects that develop products that are not used for advanced manufacturing
 - A small amount of product development is allowed within a project as long as it contributes towards the achievement of the advanced manufacturing goals
 - No more than 5% of the funding allocation can be related to product development.
- Production activities themselves or activities that subsidize full scale production
- Capital investment for production or for purposes not related to the project
- Activities that could be viewed as anti-competitive
- Activities where benefits accrue to a single firm or organization
- Projects that would be undertaken at the same scale or scope and within the same timeframe without Supercluster funding
- Any routine or periodic changes made to existing products, production lines, manufacturing processes, services and other operations in progress, even if those changes may represent improvements

APPLYING FOR PROJECT FUNDING

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NGen Support for Project Applications

NGen's project team may assist in the development of Supercluster project applications prior to their assessment.

Upon request by emailing project@ngen.ca, NGen staff may:

- Provide high level advice and guidance with respect to funding rules, eligible activities, and project requirements
- Identify potential project partners
- Identify other sources of funding for project activities
- Resources for this activity are limited, advice will mainly be provided through workshops and webinars. Individual support will be on a first come first served basis.

Independent Expert Assessment Panels

All project proposals will be subject to an independent assessment process undertaken by up to five external experts selected by NGen. The expert assessment panels will ensure that approved projects are of high quality, meet NGen's strategic objectives, and are selected fairly.

NGen's external experts includes former CEOs of manufacturing and technology companies, former senior manufacturing, engineering, and technology executives, senior personnel at universities and colleges, and executives from business consulting organizations. The assessors have a variety of sector-specific manufacturing and technology backgrounds and technical and strategic expertise.

The identity of experts participating in individual project assessments will be kept confidential. Assessors will sign non-disclosure agreements as well as conflict of interest disclosures to ensure independence and confidentiality.

Application Process

To apply for NGen funding you need to first join NGen as an organizational member rather than an individual member at www.NGen.ca/join. Membership is free.

Once a member under the Supercluster projects heading you can select the funding stream that you would like to apply to by clicking project applications.

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You will be redirected to our application portal run by Hockeystick. Please login using exactly the same credentials as your NGen account.

This will open up the project information page which will be used to screen all projects before being formally accepted into completing the application.

Project Screening

NGen will screen all proposals to ensure they meet basic eligibility requirements for Supercluster projects. Applicants will be asked to:

- Complete an Application Agreement – template [here](#),
- Certify that they have read, understand, and are willing to comply with NGen’s project requirements,
- Describe the purpose of their project and how it contributes new advanced manufacturing capabilities in Canada,
- Indicate that their project is collaborative and identify lead private sector partners,
- Certify that private sector partners looking for funding are incorporated in Canada and that the project will be carried out in Canada,
- Certify that their project would not be undertaken in the same form without Supercluster funding,
- Provide an estimate of project costs and indicate that they are willing to invest in the project within the timelines of NGen’s Supercluster funding horizon,
- Certify that they have adequate financial means and project management capabilities to carry out the project, and
- Agree to provide information necessary for NGen to conduct Financial Due Diligence.

Financial Due Diligence

NGen will undertake a financial assessment of each participating project partner to ensure they will be able to support their commitment to the project for its entire duration. Factors which will be evaluated include but are not limited to: Profitability, Liquidity, Leverage/ Indebtedness and Cashflow.

In the event the supporting financial information provided by the applicants is insufficient to demonstrate the ability to complete the planned project as proposed, NGen Canada will:

- Request additional information from the participating member,
- Reject the proposed program on the grounds that the project team does not appear to have the ability to fund the proposed project to completion, or,

APPLYING FOR PROJECT FUNDING

- Approve the project for a reduced amount of NGen funding until such time the participating members can provide further assurances on liquidity.

The Application Approval Process

- The total estimated cost of the project determines the steps required for project approval.
- The project's estimated cost is the total of NGen, industry, and other eligible government funding.
- The application process will be competitive with only the highest scoring projects being recommended by an independent panel of assessors for funding.
- Each project application will be assessed on the basis of 10 questions.
- Responses are equally weighted in assessments.
- Applications will be scored out of 100 marks (10 marks per question) by independent experts.

Acceptance or Rejection

Following an Assessment and Recommendation from the Independent assessors, NGen staff will advise all applicants directly if their project has been accepted or rejected.

Feedback

Applicants whose projects are not recommended for approval will be given a summary of how their project was evaluated, outlining the reasons why they were not approved and given recommendations to strengthen their applications. These applicants may re-apply.

PROJECTS BETWEEN \$100K AND \$500K

Pilot Projects

Applicants who meet eligibility requirements will be invited to submit a Pilot Project Application providing:

- Names and contact information for each partner in the project
- The name of the leading project partner (this information may be disclosed publicly)
- A short title and description of the project to a maximum of 300 words (this information may be disclosed publicly)

Answer Ten Questions

- Guidance available [here](#).
- Maximum 600-word answers for each question. No external links allowed.
- Five (5) appendices
 1. Project Plan (GANTT chart or schedule) (DOC, XLS, MSP, PDF)
 2. Risk Register (DOC, XLS)
 3. IP Strategy (DOC, PDF)
 4. Question Appendix (DOC, PDF); if required for charts or images
 5. Financial Workbooks - one for each partner

Templates for the Project IP Strategy, Template Tables, Financial Workbook and Application Agreement are available [here](#).

Applicants are expected to use their own templates or formats for the Project Plan and Risk Register, ensuring they address all relevant criteria outlined later in this guide.

Graphs, charts and images can accompany the application. They should be uploaded either directly into the 10 questions or added to the Question Appendix and appropriately labelled (for e.g. Fig 1, Graph 1, Image 1, etc.).

Pilot Project Applications will be assessed and scored by external independent experts and provided with detailed feedback.

NGEN PILOT STUDY APPLICATION GUIDANCE

ASSESSMENT QUESTION

1. What is the opportunity the project addresses?

RESPONSE GUIDANCE

- Outline the big-picture motivation and the overall advanced manufacturing objectives that the project intends to achieve.
- Provide an overview of the project considering both technology and business impacts, highlight other strategic benefits.
- Outline what the project team needs to do to successfully achieve the project objectives within the desired timeframe and budget.
- What are the specific challenges, research questions, and/or technical complexities that will be addressed?
- Describe the nature of the challenges facing you and/or your potential customers, along with the potential market challenges or barriers to entry.
- How will the outcomes of the project overcome these challenges?
- Clearly describe the project partners and how the partners will collaborate towards the overall opportunity.

ASSESSMENT QUESTION

2. What is the overall project and risk management plan?

RESPONSE GUIDANCE

- Describe the Project and Risk Management approach, identifying key project management tools and mechanisms (e.g. Quality Management Systems) that will be implemented to provide confidence that sufficient control will be in place to minimize risk.
- Describe how you are going to measure the success of the project.
- Summarize your overall project plan, including work-package descriptions and describe the key milestones and deliverables that show how the overall project will be achieved.
- Provide a Project Plan consisting of a Gantt chart (Appendix 1) that details the Work Packages, tasks, timelines, milestones, deliverables, dependencies and resource allocation for all partners.
- Describe the resource and management requirements for successful project completion, including how the work will be shared among project partners.
- Provide a comprehensive risk analysis including a Risk Register (Appendix 2). Identify the key risks within the project.

TEN ASSESSMENT QUESTIONS– GUIDANCE

- Consider at least the: Technical, Commercial, Managerial and Financial risks
- Other risks to consider may include: Resource, Intellectual Property, Freedom to Operate, Safety, Regulatory, Legal and Environmental risks.
- Provide appropriate analyses of the likelihood and impact of each of the risks along with appropriate mitigation strategies.
- The assessors will be looking to see that all the main risks are identified and that there are sufficient risks within the project to warrant NGen funding and that these risks are appropriately controlled.

ASSESSMENT QUESTION

3. What is transformative about the project?

RESPONSE GUIDANCE

- Clearly define the transformative advanced manufacturing aspects of the project and what new knowledge pertaining to advanced manufacturing is being created by each partner organization.
- Outline the current state-of-art manufacturing processes and technologies for your industry (or sector) and describe how this project pushes the boundaries in the context of advanced manufacturing.
- Identify the extent to which the project is transformative and innovative both technically and/or commercially. Explain how the project has the potential to transform or support the transformation of each partner organization.
- Provide evidence for these statements.

- This could include the results of:
 - patent searches,
 - competitor analyses,
 - literature surveys.

- If applicable, you should also outline your own background intellectual property rights, as related to the project.
- The transformative impact of each project will be assessed on the following considerations:
 - Will the project lead to technological and business advantages that will allow Canadian companies to leapfrog global competitors and become world leaders in the application and/or production of advanced manufacturing technologies?

TEN ASSESSMENT QUESTIONS– GUIDANCE

- Will the project provide an enabling platform for further technology development, application, and scale-up in Canadian manufacturing?
- Will the project be recognized globally as conferring or strengthening Canadian leadership in advanced manufacturing?
- If appropriate describe any novel research that will be undertaken as part of the project. Highlight and explain the timeliness and novelty of these research aspects of the project in an industrial context.
- Are the technologies new or are you looking to apply existing technologies to develop unique transformative manufacturing solutions?

ASSESSMENT QUESTION

4. What is the nature and size of the potential market the project will address?

RESPONSE GUIDANCE

- Describe the market(s) that you are entering with the development of a new Advanced Technology OR Describe the existing market that you are operating within and how this advanced manufacturing opportunity will enhance your competitive position within the market
- Consider including details of:
 - the target market, including the size, margins, market leaders, key competitors, price competition, barriers to entry
 - Adjacent markets where the new knowledge could be commercialized
- Consider including details of:
 - dynamics of the market quantifying its current size, including historical and projected growth rates
 - the specific target product, platform and service applications underpinning the market
 - the expected share of market to be captured as a result of this project
 - the opportunity timeline and when you expect benefits to be realized
 - the impact of the project on existing or future customer relationships
- Provide evidence for your statements about the market opportunities your project opens-up and outline your strategy for developing market share.

TEN ASSESSMENT QUESTIONS– GUIDANCE

ASSESSMENT QUESTION

5. **What sort of economic benefits is the project expected to deliver to those inside and outside the consortium, and over what timescale?**

RESPONSE GUIDANCE

- Identify the economic benefits the project will have, both for participating project partners and other suppliers / partners both inside and outside of the project. Consider the impact over the short (1-3 years) medium (4-7 years) long-term (8-10 years).
- For each of the project partners (and appropriate suppliers) provide an analysis of:
 - the expected additional revenue that can be generated.
 - the number of direct jobs created and safeguarded.
 - the number of indirect jobs that can be created within the supply chain - consider appropriate multiplier effects relevant to your sector
 - expected exports
 - economic impact of new market opportunities or new expanded value chain opportunities
- Quantify any indirect economic benefits that might be achieved. Examples might include the potential cost savings associated with:
 - Reduced downtime
 - Reduced manufacturing footprint
 - Positive environmental benefits
 - Reduced material usage
 - Higher quality output
 - Reduced scrap and warranty
- Outline the benefits each partner will see, and over what timescale.
- How does the partnership help each individual partner achieve greater economic growth?
- Define the economic benefits that the project can have on the whole Canadian supply network upstream and downstream.
- Will the project enable more localized supply of material or components? What are the spill-over economic benefits that this might achieve?
- Will the project create spin-off business opportunities (new businesses, new or expanded supplier or partner relationships) in Canada?
- Consider a table to clearly articulate the cumulative job potential.
- Ensure you articulate within the application how you have derived the numbers and clearly show multiplier effect source reference.

ASSESSMENT QUESTION

6. What is the impact on the broader advanced manufacturing ecosystem?

RESPONSE GUIDANCE

- Projects must demonstrate a significant and lasting impact on the development and capacity of Canada’s advanced manufacturing ecosystem.
- Describe how the project will create widespread positive impact, leaving a legacy for advanced manufacturing in Canada for the partners and beyond (considering how the project impacts beyond the partners and throughout the supply network).
- To highlight this, consider some of the following:
 - Workforce Development:
 - > How will the project encourage the engagement of women and under-represented groups in the workforce?
 - > Outline the opportunities for attracting, training and developing a highly skilled talent pool (both existing and new staff).
 - Industry knowledge:
 - > Will the project serve as a model or learning platform in Advanced Manufacturing for others? For example, providing tours, or use cases on best practises.
 - > Will the project generate intellectual property that can be used by others to accelerate technology applications or scale-up of manufacturing in Canada?
 - > Will the project influence the activities of colleges, universities and/or research institutes to support the education of advanced manufacturing resulting in the diffusion of this knowledge back into Industry?
 - Infrastructure support:
 - > Will the project help to develop or support the use of tools, testbeds, or data platforms that will foster future technology development, adoption, scale-up, and commercialization activity in Canadian manufacturing?
 - Collaborative Networks:
 - > Will the project further enhance the ability of industry partners, post-secondary education institutions, research centres, and other

TEN ASSESSMENT QUESTIONS– GUIDANCE

private and public organizations to work together to strengthen advanced manufacturing in Canada?

- > Describe how the project could build greater capacity / provide opportunities and capabilities in the support of Small and Medium Enterprises.

- Describe any other advanced manufacturing Ecosystem benefits that will be achieved as a result of the project.

ASSESSMENT QUESTION

7. How does NGen add value and what additional benefits will be achieved?

RESPONSE GUIDANCE

- Provide evidence that NGen support is essential to achieve the project goals. Questions to consider:
 - How has the project’s technical or commercial scope changed due to NGen support?
 - Is NGen funding critical to undertake the project as proposed?
 - Does NGen funding allow the project to be undertaken differently (more quickly, at a larger scale, with more partners)?
 - Would the collaborative partnership have been formed without the project?
 - Is the project too risky for commercial investors?
- Describe the Social and Environmental benefits that this project enables for each partner.

Social Benefits

- Describe any expected social impacts, for example:
 - Diversity and inclusion, including activities that will be undertaken to ensure that women and underrepresented groups are meaningfully represented in, and benefit from the project
 - Enhanced quality of life
 - Social inclusion/exclusion
 - Public empowerment
 - Health and safety

Environmental Benefits

- Outline the environmental improvements and impacts as an outcome of this project. Consider:

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- GHG, particulate matter reduction
 - Process and resource efficiency
 - Better energy management
 - Reduced volatile organic compounds
 - Reduced land degradation
 - Reduced water usage
 - Footprint reduction
 - Reduced emissions due more efficient and optimized transportation and distribution within the supply chain
 - Use or creation of sustainable materials
 - Reuse, recycle, and remanufacturing
 - Other life cycle benefits
 - Other sustainability opportunities
- Describe any other benefits that might be achieved as a result of this project. (Regulatory, certification, standards development, regional and policy benefits etc).

ASSESSMENT QUESTION

8. How will the results of the project be commercialized?

RESPONSE GUIDANCE

- The response should highlight the new potential business opportunities for each partner in collaboration and individually.
- Outline the commercial spill-over opportunities, demonstrating how your activities will contribute to the wider industry and other sectors.
- For each partner, describe the activities that will be undertaken to ensure the sustainability and continued growth of the project outcomes beyond the project end date, including:
 - expected project outputs that will be commercialized - including new or improved products, services, processes, capabilities, and manufacturing technologies.
 - the route to market - what commercialization channels will you exploit to gain customer traction? If possible, identify specific channels being targeted and the timeframe.
 - measures for protection, exploitation and dissemination of project outcomes
 - other market opportunities (considering adjacent markets) that will emerge as a result of this project
 - opportunities to commercialize the Intellectual Property, include licence to manufacture, licensing of IP, manufacturing or direct sales (IP Strategy Appendix 4)

TEN ASSESSMENT QUESTIONS– GUIDANCE

- the plan and rationale for the protection of IP and sharing of IP among your consortium partners and, beyond this, with other NGen members. Including a patent filing strategy for domestic and foreign jurisdictions, changes to business models or processes, research and development (R&D), manufacturing services (IP Strategy Appendix 4)

ASSESSMENT QUESTION

9. What is the collaborative nature of the project including the partner skills, and experience, to deliver the identified benefits?

RESPONSE GUIDANCE

- Describe the collaborative nature of the project and how the consortium working together will achieve more than if they were working individually.
- Describe how the project partners will:
 - develop relationships and build trust
 - increase knowledge sharing
- Describe any additional collaborative activities related to suppliers, sub-contractors, academic or research organizations involved in the project.
- Consider using the IP Strategy (Appendix 4) to demonstrate the nature of the collaboration in terms of the licensing and access to background and foreground IP during and after the project.
- Describe the track record of the project team members in undertaking and exploiting the results of research and development projects, to show your capability to develop and commercialize the technology.
- Consider whether:
 - the project team has the right available mix of skills and experience to deliver the project successfully. Provide a highly description of the partners track record in achieving similar manufacturing R&D projects.
 - appropriate governance structures between the consortium partners are in place to manage and deliver the project, consider providing a high-level diagram
 - the make-up of the consortium, along with their knowledge and experience will help improve the capabilities of the Canadian supply chain during the project and beyond
 - there is appropriate access to facilities and resources, including identifying and allocating appropriate space and/or infrastructure in order for the project to be successful (consider floor space, specialized equipment needs, specialized resources, etc.)

ASSESSMENT QUESTION

10. What is the financial commitment required for the project?

RESPONSE GUIDANCE

- Indicate the anticipated project cost, making clear the level of contribution from any project participants and the level of funding required from NGen. This information should be provided in the financial workbooks.
- Supporting information and explanation for project costs should be provided in this section. For each partner explain how the funding will be used and why it is required for each of the main cost categories in the finance workbook (labor, subcontract, equipment, materials, travel and other eligible costs).
- Provide a breakdown of the costs per work package, showing how it aligns with the project plan.
- In evaluating the project, the assessors will consider the following questions:
 - has a realistic budget breakdown been provided and is the budget realistic for the scale and complexity of the project?
 - is a financial commitment from other sources demonstrated for the balance of the project costs?
 - have the costed work package breakdowns been described and justified adequately?
- Ensure that all key points relating to the finances are described. For example:
 - the reason for, and use of, subcontractors, their impact on the project, and why they are not formal project partners.
- Describe other private sector co-investment/financial contributions that this project will attract in the short, medium and long-term, identifying any future planned follow on funding.
- Outline other government funding, including stacking limits, that this project has secured or plans to secure against the project.
- Describe how the project can help attract or retain and promote industry investment and product mandates in Canada.
- Assessors will consider the above aspects as well as a determination of the value for money for NGen funding, considering the total potential impact and return of the project against the amount of funding being requested.

UPON AGREEMENT

Upon the final recommendation of the independent assessment panel, NGen will conclude a Master Project Agreement (MPA) with selected funding recipients detailing project requirements, reporting, and NGen's compliance obligations.

There must be a Collaboration Agreement in place among the members of project consortia defining the roles of project partners and joint risk management provisions.

The Collaboration Agreement must also set out how foreground IP arising in projects will be shared among project partners. In addition, project participants must indicate the types of foreground IP they would be prepared to share with other members of the Supercluster, to whom, and on what conditions.

TEMPLATES

[Financial Workbook](#)

[Application Agreement](#)

[Project IP Strategy Template Tables](#)

REFERENCES

[NGen Intellectual Property Strategy](#)

[Project IP Strategy Guide for Applicants](#)

[Finance Guide](#)

EXAMPLE AGREEMENT

[Collaboration Template](#)

[Draft Master Project Agreement](#)



NGen is founded on the principle that the transformation to advanced manufacturing will enrich the lives of Canadians, delivering better products and good jobs while generating the economic growth essential to a better future.



www.ngen.ca

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This guide is meant to provide project participants with additional assistance in understanding the framework of the Innovation Supercluster Program. In case of any discrepancy or inconsistency between this Guide and the Innovation Supercluster Initiative Program Guide (which can be found [here](#)), the Innovation Supercluster Initiative Program Guide shall prevail.